USER GUIDE

Software Version 6.5. User Guide Build 2.
For IBM i.

Docu-Mint™

The Automated Software Documentation, Cross Referencing, Impact Analysis and Development System

Perform impact analysis on your RPG/400, ILE-RPG and CL code with Docu-Mint, the multi-award winning IBM i software documentation tool.

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System Requirements
Docu-Mint 6.5 requires that you have a minimum OS/400 release of V5R3M0.

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SECTION

I

Installation and Tutorial

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Chapter 1 - Introduction & Installation Instructions

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CHAPTER 1

Introduction & Installation Instructions

What is Docu-Mint?

Docu-Mint is a comprehensive software documentation, cross referencing and development tool. Using Docu-Mint, you can document your source, objects and fields. The extended field analysis functions also enable you to locate fields with specific characteristics and determine their relationships to others within your files and programs.

The first steps you need to take when using Docu-Mint are to mark and analyze the libraries that you want to work with. The library analysis process populates the internal Docu-Mint files with records describing your files, programs and other objects, as well as the relationships between them all.

After analyzing your libraries, you should review the analysis error report, which describes any problems encountered (for example, missing source members). For the most part, these errors can be remedied with alternate source references. After adding an alternate source reference, you can then analyze the library again, until you get the best possible results.

When you have finished the library analysis process, you can then run any of the other functions in Docu-Mint to work with the results.

Docu-Mint is very easy to use. Your greatest challenge will be to familiarize yourself with the output of the different reports, and the options available for customizing your results. Remember to use the online Help whenever you have any doubts about how something works.

About this Manual

This manual is a User Guide for Docu-Mint V6R5M0 and higher. It includes instructions for installing and getting started with Docu-Mint as well as detailed descriptions of each command and menu option. This manual is divided into the following sections:

Section I, Installation and Tutorial

The first section (which you are now reading!) of the User's Guide includes a brief overview of Docu-Mint, and instructions on how to install it and quickly get started working with it. In addition, this section also includes descriptions of common tasks you will perform with Docu-Mint, and how to quickly accomplish them.

Section II, Working With Libraries and Objects

In Part II we describe in detail the two main screens you will use most when working with Docu-Mint, the Work with System Libraries (WWL) and Work with Analyzed Objects (WWO). From these screens you can access most of the other options and functions you will need when working with Docu-Mint on a daily basis.

Section III, Menu Reference

The third part of this manual includes a chapter describing each of the Docu-Mint menus, and the commands that you can run from them. The menus provide access to all the Docu-Mint commands and options, including the less frequently used ones which aren't directly available from the WWL and WWO screens.

Section IV, Extended Field Analysis Functions

Part IV explains how to create and execute extended field analyses on your files and programs. Chapter 12 includes examples and illustrations of the reports that you can select from to print the results of your analyses.

Section V, Docu-Mint Command Reference

The final section of this manual includes a detailed description of every Docu-Mint command, with the expected parameters, command functions and expected output.

How to Use this Manual

This manual is designed to be used both when you are just starting out and also as an everyday reference tool when using Docu-Mint.

Read this section to get started using the software, and to build and run your first analysis. It also includes a section describing how to resolve some common system documentation problems using Docu-Mint. Chapter 2 includes a Quick Start exercise that walks you through some simple instructions to mark and analyze the Docu-Mint demo library and extract some sample information from it.

After you finish reading the first two chapters, you should also read through most of Part II, to learn how to use the two main displays in the software. The **Work with System Libraries** and **Work with Analyzed Objects** (which we may also refer to as WWL and WWO) list your libraries and analyzed objects respectively, and provide access to many of the other commonly used features. Once you master these, you can use the rest of the manual as a reference tool for using Docu-Mint on a daily basis.

The command and menu reference sections of the guide will give you additional help with using some of the more obscure features in the software, as well as details on the supported parameter values for every command. The sections on the extended field analysis functions teach you how to isolate certain types of fields in your files and programs and check their usage. If necessary, you can select from one of the several reports available for printing your findings.

Please note that the software includes extensive help information on all screens and command prompts - almost the entire contents of this guide. So if at any time you have a doubt about how something works, just press F1 or the Help key.

If you have questions about installing or using Docu-Mint, please contact our Technical Support team at (250) 655-1766, Monday to Friday from 7:30 AM to 5:00 PM PST. You can also email us any time at excel@excelsystems.com.

Installing or Upgrading to Docu-Mint V6R5M0

Follow the instructions below to install Docu-Mint Release V6R5M0. If your media appears to be for a different version of the software, contact BCD for instructions.

Upgrading From Previous Versions

If at the time you install Docu-Mint Release V6R5M0 you have a previous version of the software on your system, you will need to re-analyze your libraries at the end of the installation process. This is required because of the improvements that have been made to the analysis programs and changes to the internal file structures.

The installation process prompts you for a library name to save your current version of Docu-Mint. If for any reason you want to return to that version, you can delete the new DM#LIB and rename your saved library (probably DM#LIBOLD or DM#LIB50) back to DM#LIB. Note that the old library may be quite large, so after you get up and running with the new version, you may want to save it to tape and delete it off your system, or just delete it outright.

Your existing permanent security code is retained when you install the new release. To enter a temporary security code, refer to the separate instructions included in your documentation package.

What is Installed

These are the major components installed on your IBM i:

1. **Library DM#LIB.** This is the Docu-Mint product library. It contains all the programs, files and other objects needed to make Docu-Mint work.
2. **Library DM#DEMOLIB.** This library contains demo files and programs to help you learn how to use the software.
3. **Library BCDSUPPT.** This is a support library containing objects required to install updates.

The installation libraries BCDINSTALL and DM#INST can be removed once the install is complete.

If you have any questions about any of these components or you need help with removing them when uninstalling the software please contact our support team.

Installation Instructions

Your Docu-Mint install should take about 5-10 minutes depending on the model of your IBM i. Follow the instructions below:

1. If you don't yet have the install file on your PC, go to the **Free Trial and Downloads** link at www.bcdsoftware.com and fill out the download form. Then choose the option to go to the software download, and download the IBM i install file. The name of the file downloaded to your PC is docu-mintv650.exe.
2. When the download finishes, double-click this file to unpack the install files and launch the FTP program that will transfer the install library to your IBM i:

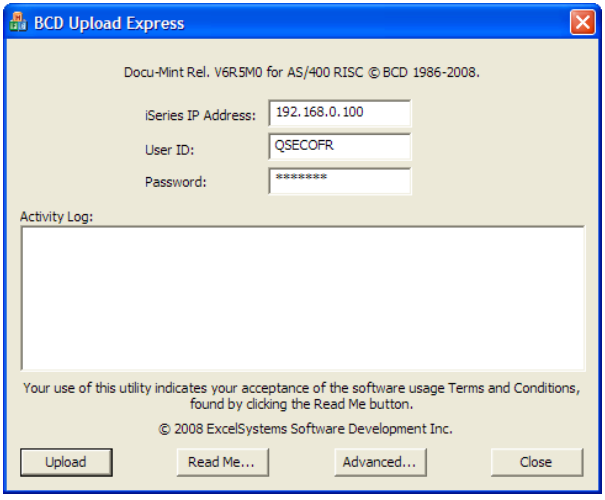


Figure 1-1.

3. Enter your IBM i IP address and the `QSECOFR` password. Then click the Upload button. When the upload finishes the activity log will display the message 'File upload complete'. You can then close the FTP utility.
4. Log on to an IBM i session as `QSECOFR` and execute the command `BCDINSTALL/BCDINSTALL`. At the screen presented, select option 1 next to the product Docu-Mint and press Enter to install. The installation process restores the Docu-Mint install library named DM#INST. Once restored, the installation process automatically continues with the next steps.
5. The install will ask if you want to restore the Docu-Mint S/36 environment. Choose Y only if you need this feature.

6. As the last step you are prompted for your security code. Type your code and press Enter.

   If you had a previous version of Docu-Mint installed on your system, Release V6R5M0 displays your existing security code on the panel. If the prompt displays A1A1A1A1A1A1 you need to enter your permanent license key or a trial period security code to evaluate the software. Please call BCD at (630) 986-0800 or your local software distributor.

7. To start Docu-Mint add DM#LIB to your library list and type the command `STRDOC`. Confirm your activation status in the upper right corner of the Work with System Libraries screen.

   If your activation status is *EXPIRED, you need a new security code. You can get this from BCD or your local distributor. To enter the security code, run the command `ACTIVATE` from the panel first presented when you run the `STRDOC` command.

If the BCD Support Library (BCDSUPPT) is already on your system because you are using other BCD software, it will be omitted from the install. Otherwise, that library is also installed automatically.

This concludes the installation instructions.

You are now ready to start working with Docu-Mint. Note that you need to mark and analyze your libraries before you can use any of the reports or commands. The following sections of this guide include detailed instructions on how to quickly get started with these steps.

Getting Started with Docu-Mint

Overview of How Docu-Mint Works

Most of the Docu-Mint commands are designed to run over Docu-Mint's internally built files of information about the objects and source you have analyzed. This means that when you run the reports or specific commands the data is readily available, and doesn't have to be retrieved each time.

However, in order to get started with Docu-Mint, you must first mark and analyze the libraries that you will be working with. After analyzing a library (or set of libraries), you should then check the analysis errors listing, to show you whether any errors occurred during the analysis process.

An example of a typical analysis error you would encounter is where the source for one of your programs has been moved or deleted, so the analysis process can't find it where it expects to. Keep in mind that even though you may have errors, Docu-Mint still analyzes everything that it *does* find. Depending on the type of analysis errors you get, you may choose to disregard them or go back and fix them (by moving things around, or recompiling, or defining alternate source references) and rerun your analysis.

If you do rerun the analysis, it will only analyze objects and source that failed previously, it will not reanalyze the entire library.

The section below describes how to mark and analyze a library, and then check your results.

Loading and Maintaining the Docu-Mint Cross Reference Files

Below are some simple instructions for getting started with Docu-Mint. The Quick Start exercise in the next chapter also covers these steps, and illustrates them as well.

To get started with Docu-Mint, type `ADDLIBLE DM#LIB` and press Enter, to add the product library DM#LIB to your library list. Then run the command `STRDOC`.

If you are running under a trial period security code, the Docu-Mint splash screen pops up (this can be turned off from the `CHGDOCCTL` command once you get your permanent code). Press Enter once more to present the **Work with System Libraries** panel, from which you can execute all the options required to mark and analyze libraries, and work with the results of the analysis.

Below is an illustration of the **Work with System Libraries** panel:

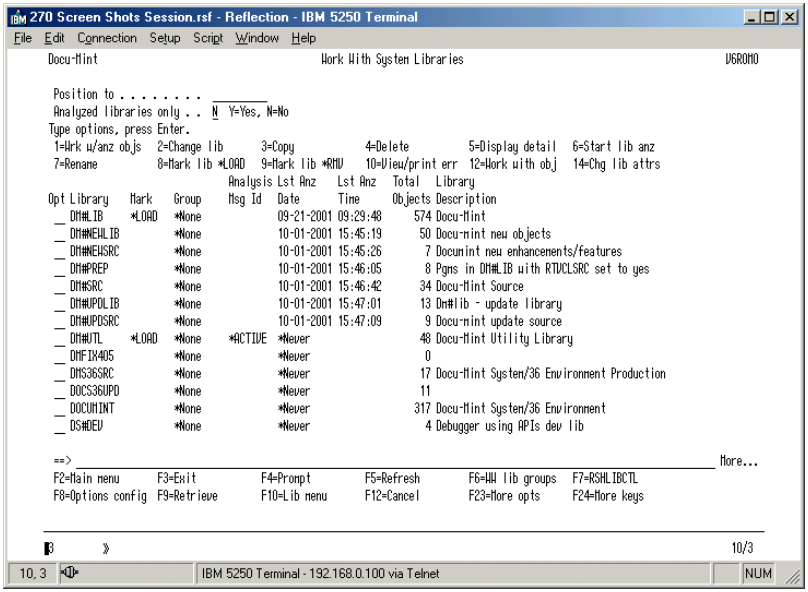

270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Work With System Libraries V6R0M0
Position to . . . . . _____
Analyzed libraries only . . N Y=Yes, N=No
Type options, press Enter.
1=Wrk w/anz objs 2=Change lib 3=Copy 4=Delete 5=Display detail 6=Start lib anz
7=Rename 8=Mark lib *LOAD 9=Mark lib *RMV 10=View/print err 12=Work with obj 14=Chg lib attrs
Analysis Lst Anz Lst Anz Total Library
Opt Library Mark Group Msg Id Date Time Objects Description
DM#LIB *LOAD *None 09-21-2001 09:29:48 574 Docu-Mint
DM#NEWLIB *None 10-01-2001 15:45:19 50 Docu-mint new objects
DM#NEWSRC *None 10-01-2001 15:45:26 7 Docuмint new enhancements/features
DM#PREP *None 10-01-2001 15:46:05 8 Pgms in DM#LIB with RTVCLSRC set to yes
DM#SRC *None 10-01-2001 15:46:42 34 Docu-Mint Source
DM#UPDLIB *None 10-01-2001 15:47:01 13 Dm#lib - update library
DM#UPDSRC *None 10-01-2001 15:47:09 9 Docu-mint update source
DM#UTL *LOAD *None *ACTIVE *Never 48 Docu-Mint Utility Library
DMFIX405 *None *Never 0
DMS36SRC *None *Never 17 Docu-Mint Systen/36 Environment Production
DOCS36UPD *None *Never 11
DOCUMINT *None *Never 317 Docu-Mint Systen/36 Environment
DS#DEV *None *Never 4 Debugger using APIs dev lib
==> More...
F2=Main menu F3=Exit F4=Prompt F5=Refresh F6=WW lib groups F7=RSHLIBCTL
F8=Options config F9=Retrieve F10=Lib menu F12=Cancel F23=More opts F24=More keys
10/3
10, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 1-2.

The first step is to mark the libraries that you want to analyze with an option of *LOAD. To mark a library, use option 8 from the panel above. You can mark as many libraries as you want before starting an analysis.

A useful technique is to group libraries together, which allows you to submit several libraries to be analyzed at once (i.e. a group). To add libraries to a group, select option 14 next to each to run the `CHGLIBATR` command. Or you can also press F6 from the WWL screen to present a screen to create and work with library groups.

After marking your libraries, use option 6 to run the `STRLIBANZ` command for each library (or a library group) to begin the analysis process.

After your library analyses have completed, select option 10 (from the WWL panel illustrated above) next to each of your analyzed libraries to check whether the process encountered any errors. As has been mentioned previously, the most common errors are those resulting from source code not being found for an object. To address this type of error you can create alternate source references that the analysis process will use to know where to look for object source. You can use option 6 from the **Display Library Analysis Errors** screen to easily add these rules (illustrated below).

You can also print your error report by pressing F21.

Here is an illustration of the **Display Library Analysis Errors** panel, where we have also selected option 6 to begin adding an alternate source file reference:

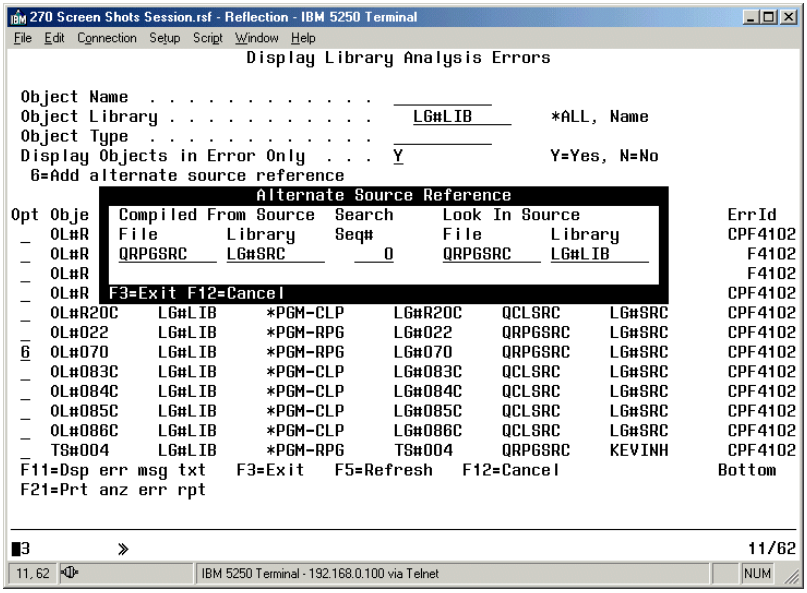

270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Library Analysis Errors
Object Name . . . . . _____
Object Library . . . . . LG#LIB *ALL, Name
Object Type . . . . . _____
Display Objects in Error Only . . . Y Y=Yes, N=No
6=Add alternate source reference
Alternate Source Reference
Compiled From Source Search Look In Source
File Library Seq# File Library
QRPGSRC LG#SRC 0 QRPGSRC LG#LIB
F3=Exit F12=Cancel
Opt Obje ErrId
_ OL#R CPF4102
_ OL#R F4102
_ OL#R F4102
_ OL#R CPF4102
_ OL#R20C LG#LIB *PGM-CLP LG#R20C QCLSRC LG#SRC CPF4102
_ OL#022 LG#LIB *PGM-RPG LG#022 QRPGSRC LG#SRC CPF4102
6 OL#070 LG#LIB *PGM-RPG LG#070 QRPGSRC LG#SRC CPF4102
_ OL#083C LG#LIB *PGM-CLP LG#083C QCLSRC LG#SRC CPF4102
_ OL#084C LG#LIB *PGM-CLP LG#084C QCLSRC LG#SRC CPF4102
_ OL#085C LG#LIB *PGM-CLP LG#085C QCLSRC LG#SRC CPF4102
_ OL#086C LG#LIB *PGM-CLP LG#086C QCLSRC LG#SRC CPF4102
_ TS#004 LG#LIB *PGM-RPG TS#004 QRPGSRC KEVINH CPF4102
F11=Dsp err msg txt F3=Exit F5=Refresh F12=Cancel Bottom
F21=Prt anz err rpt
3
11/62
11, 62
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 1-3.

The example above illustrates a situation where multiple source members weren't found in LG#SRC/QRPGSRC because of our practice of promoting the source to LG#LIB without recompiling the objects, when development is complete. The alternate source reference above will instruct the analysis process where to look for the current version of the program source, when it isn't found in LG#SRC.

When you review the analysis error report remember that even though Docu-Mint may have had a problem with some objects, everything else has been analyzed. Therefore, at this point you can evaluate the nature of the errors you have encountered, and if they aren't unexpected, you can decide to ignore the errors and continue, or go back and fix the errors and resubmit your analysis.

Once your libraries have been analyzed as completely as possible, you can then go on to the next stages.

The next section below lists some typical tasks you would perform with Docu-Mint, and how to do them. Chapter 2 includes a Quick Start exercise that you can use if you would like a more robust, keystroke-by-keystroke tour illustrating some of the main features, beginning with the analysis process.

Sample Docu-Mint Tasks

All of the tasks described below require that your libraries have already been analyzed.

How can I show a list of the objects used by one (or many) of my programs?
Use the WRKUSEOBJ command (from a command line, or option 9 from the **Work with Analyzed Objects** screen). You can get to the **Work with Analyzed Objects** panel by using option 1 from the **Work with System Libraries** screen, or using the the WWO command. WRKUSEOBJ is described in the command reference chapter, and also in the section **Option 2 – Work with Used Objects** on page 94 of Chapter 6.

How do I find out what programs use a file that has changed?
Use the WRKWHRUSE command (option 8 from the **Work with Analyzed Objects** screen; see instructions above on how to get there). This is described in the command reference chapter, and also in the section **Option 3 – Work with Where Used** on page 101 of Chapter 6.

How can I display a list of all the objects on my system?
Run the WWO command (or select option 1 next to any of your libraries from the **Work with System Libraries** panel) and type a library name of *ALL in the library prompt at the top of the panel.

When should I use the Field Cross Reference reports (Menu DM#FLD) as opposed to building an Extended Field Analysis?
The field cross reference reports (PGMFLDXREF, etc.) should be used when you want to see a complete cross reference listing between all the fields in a file (or set of files), and a set of programs. These are described in Chapter 7, **Menu DM#FLD: Field Cross Reference**. Build an extended field analysis when you want to find only fields that satisfy some specific criteria in a set of files and/or programs. Section IV, **Extended Field Analysis Functions**, describes how to build and use extended field analyses.

How do I print a list of unused objects?
You can use the command PRTUNUSOBJ to do this. Keep in mind that the information displayed by this command is constrained by the amount of information available from *analyzed* libraries. For example, if you check the usage of an object that is called from a library that has not been analyzed, Docu-Mint will not display any usage records for that object. Your other option is to use the PRTORPHOBJ report, which builds a complete list of object usage records. This command will track down information in non-analyzed libraries, but also includes records for all objects in the selected library, not just for

unused ones, and can take an extremely long time to run as well as being very large.

When should I use the DOCOBJ, DOCPGM, etc., commands?

When you start using Docu-Mint, you will analyze your libraries. After a library has been analyzed, you can use these commands to update the internal Docu-Mint reference information for just a few objects at a time, when they have changed, rather than reanalyzing the entire library.

What can I do with the DOCILESRC command?

You can use the DOCILESRC command to enhance your ILE source code (typically source code that has recently been converted to ILE using IBM's CVTRPGSRC). When you run DOCILESRC over an ILE source member, the following changes are made:

- Field definitions are consolidated into D-Specs.
- Comment lines are converted to high intensity.
- IF and DO structures are documented, etc.

Can I use Docu-Mint to search source member for a specific text string?

Using the SCN (Scan Source) command you can execute searches of up to 10 different strings, as well as wild cards. You can scan individual source members, or groups of members in a source file. Add DM#LIB to your library list and prompt the SCN command for a snapshot of the available options.

If I have moved the source for some of my programs, will Docu-Mint find it when it analyzes my object libraries?

Docu-Mint allows you to define alternate source references for just this type of situation. Go to the configuration menu (DM#CFG - F17 from the WWL panel) and from there select the option to maintain the alternate source definitions file. At the panel presented you can set where Docu-Mint will look for program source when source files or programs have been moved since the last time the programs were compiled.

Docu-Mint Common Function Keys

Several of the screens that Docu-Mint presents for working with your output have similar options and function keys. Below is a list of those functions and options, and how they work.

Opt

Use this field to perform operations on the items in the list. You can perform different operations, or the same operation, on more than one item in the list at a time. This field accepts both PDM and Docu-Mint user defined options. For more information on defining and using options within Docu-Mint, see **Option 13 – Maintain the Options Control File** on page 141.

Roll Up/Down

In addition to the expected function of paging a subfile, the roll keys can also be used to position a subfile line to the top of the page. By placing the cursor on a subfile line to the right of the option field, you can position that line to the top of the page by pressing Roll up.

F3=Exit

Exits the panel without processing any options or changes you entered on the input prompts.

F4=Prompt

Provides assistance for the option(s) you select in a list or the command you enter on a command line. For commands, F4 provides an entry display for the parameters relating to that command.

F5=Refresh

Changes the prompts back to their original values and clears the options and command line without repositioning the list.

F9=Retrieve

Displays the last command you typed on a command line. Press F9 twice to see the next-to-last command you typed, and so on until the command you want to see is displayed.

F10=Command entry

Displays a command entry display.

F10=Prev view/F11=Next view

Changes the view of information shown in the subfile.

F12=Cancel

Cancels the current screen without processing any options or changes you entered on the input prompts.

F23=More options

Shows the next set of options available for the display.

F24=More keys

Shows the next set of function keys available for the display.

Docu-Mint Terminology

Docu-Mint employs several different terms in its commands and output. Below is a list of some of those terms and their significance.

Object Types

Docu-Mint uses three additional pseudo object types in order to treat procedures, source members and unknown object types as objects on your system:

Pseudo Object Type	Description
***PROC**	Procedure.
***SRCM**	Source member.
***VAR**	Variable object type. This value is used to define an object whose type is not determined until program execution. A common example where this object type would be generated would be a statement within a CL program where a command uses a variable to define an object's type (for example, DSPOBJD OBJ(MYLIB/ANYOBJ) OBJTYPE(&objtype) …).

Object Usage

Normally, object usage is described by the name of the command or procedure operating on a given object. In order to better describe how an object is being used, Docu-Mint uses the following additional descriptions:

Object Usage Code	Description
CPP	Command processing program. Indicates an indirect call to the program by a command.
VCP	Validity checking program. Indicates an indirect call to the program by a command.
REF	Referenced. Indicates the file is used to define an externally described data structure in an RPG program.
INLMENU	Initial menu. Indicates an indirect display of the menu by a user profile.

Object Usage Code	Description
INLPGM	Initial program. Indicates an indirect call to the program by a user profile.

File and Data Usage

The following usage descriptions describe file and data area usage within RPG programs. They may be used in combination with each other in which case they will be separated by a slash (INP/OUT). DLT will be truncated to DL if it is combined with UPD and OUT (UPD/OUT/DL).

Usage Code	Description
INP	Input. Indicates the file or data area is input capable to the program.
OUT	Output. Indicates a file or data area is output by the program.
UPD	Update. Indicates the file's records may be updated by the program.
ADD	Add. Indicates records may be added to the file by the program.
DLT	Delete. Indicates records may be deleted from the file by the program.
MODD	Modified Directly, for example a Z-ADD operation into that field

This concludes the introductory section of this guide. The next section is the Quick Start Exercise, which walks you through using some of the common features of the software, and provides hints on how to use Docu-Mint most effectively.

CHAPTER 2

The Quick Start Exercise

This is a simple, step by step exercise that walks you through some of the most commonly used functions in Docu-Mint. The exercise uses the demo library DM#DEMOLIB, which is installed with the software.

DM#DEMOLIB includes a set of files and programs which have been built into a simple application, with the program DMMENU set up as the gateway to calling the other programs. The called programs include a few company and item maintenance programs, as well as two reports with associated prompt panels and CL driver programs. The database files include company, customer and item masters, as well as order header, order detail and inventory files.

The first steps of the Quick Start, to mark and analyze library DM#DEMOLIB, are essential. After completing those steps you can try out commands other than the ones we illustrate without affecting the results of the exercise.

When you complete the exercise, you can remove the demo records from Docu-Mint's internal database by marking DM#DEMOLIB with an action of *REMOVE *ALL, then running the `STRLIBANZ` command once more. Then someone else can restart the exercise from scratch.

Because you aren't familiar with the files and programs included in the DM#DEMOLIB sample application, you may find that the analysis results aren't all that meaningful to you. We recommend that after completing the Quick Start (which should familiarize you with using Docu-Mint), you go through a similar process with one or more of the libraries that you are most familiar with. This will be your most effective learning tool towards becoming familiar with the layouts and output of the various Docu-Mint commands and reports.

Have fun!

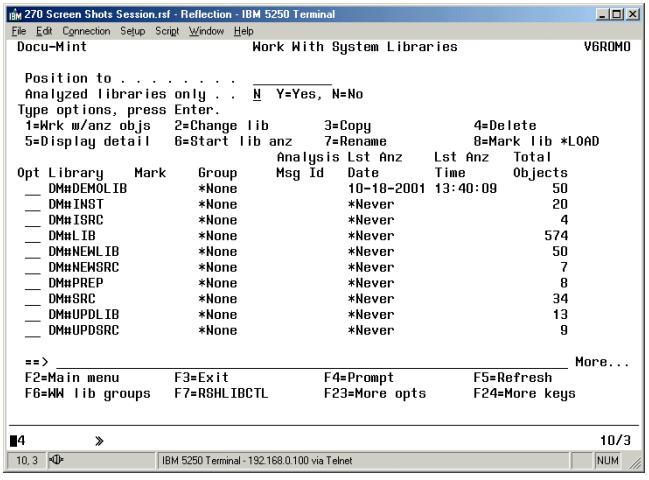
Quick Start Exercise

To begin working with Docu-Mint, first add the product library to your library list by typing the following command:

```
ADDLIBLE DM#LIB
```

and pressing Enter. After adding the library to your list, type `STRDOC` and press Enter. When you do this the Docu-Mint splash screen appears - press Enter once more. You can turn the splash screen off once you purchase the software and install your permanent security code.

The first screen presented is the **Work with System Libraries** panel, the main Docu-Mint interface for working with the libraries and objects on your system. For ease of readability, the screen shots in this section have been taken in 80 column mode, but depending on how your emulation is set up you may see this panel in 132 column mode on your own screen.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Work With System Libraries V6ROMO
Position to . . . . . _____
Analyzed libraries only . . N Y=Yes, N=No
Type options, press Enter.
1=Wrk w/anz objs 2=Change lib 3=Copy 4=Delete
5=Display detail 6=Start lib anz 7=Rename 8=Mark lib *LOAD
Analysis Lst Anz Lst Anz Total
Opt Library Mark Group Msg Id Date Time Objects
DM#DEMOLIB *None 10-18-2001 13:40:09 50
DM#INST *None *Never 20
DM#ISRC *None *Never 4
DM#LIB *None *Never 574
DM#NEWLIB *None *Never 50
DM#NEWSRC *None *Never 7
DM#PREP *None *Never 8
DM#SRC *None *Never 34
DM#UPDLIB *None *Never 13
DM#UPDSRC *None *Never 9
==> More...
F2=Main menu F3=Exit F4=Prompt F5=Refresh
F6=WW lib groups F7=RSHLIBCTL F23=More opts F24=More keys
4 10/3
10, 3 IBM 5250 Terminal - 192.168.0.100 via Telnet NUM

The **Work with System Libraries** (WWL) panel displays a list of the libraries on your system, a summary object count, and when they were last analyzed. In the illustration at right we have typed `DM#DEMOLIB` at the top of the panel and pressed Enter, to position the list to that library. From the WWL panel you can select options to analyze your libraries and then work with the results. There are also functions keys to take you to all the menus in Docu-Mint, though the only one you really need to remember is F2, to present the **Docu-Mint Main Menu**. Try that now if you like. Then return to this panel by pressing F3.

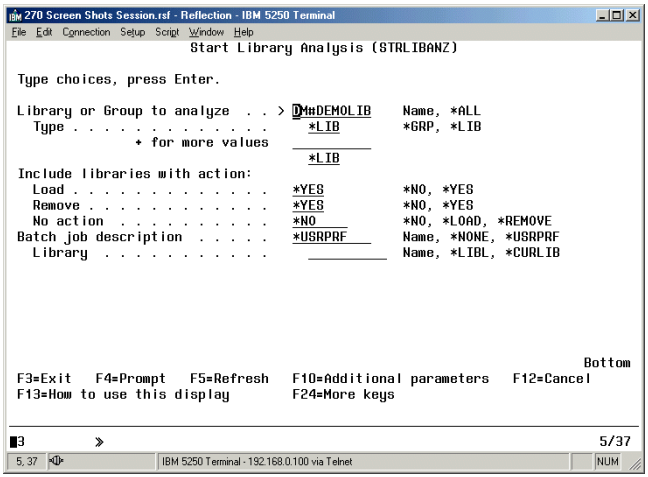
The first step required is to mark the libraries that we want to have Docu-Mint analyze for us. To do this, select option 8=Mark lib *LOAD next to the library DM#DEMOLIB, and press Enter. When you mark a library, it doesn't yield any output; it just tells Docu-Mint what to do with that library the next time you

analyze it. When you analyze a library marked *LOAD, Docu-Mint loads all the library information into it's internal cross-reference files.

At the panel presented when you select option 8 (**Mark Library for Analysis**), press Enter to confirm your choice. When you return to the WWL list (shown above), the word *LOAD should be shown in the Mark column of the list, next to DM#DEMOLIB.

Next we need to start the library analysis.

To start the library analysis, select option 6 next to the library DM#DEMOLIB and press Enter. The panel presented should appear as shown at right.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Start Library Analysis (STRLIBANZ)
Type choices, press Enter.
Library or Group to analyze . . > DM#DEMOLIB Name, *ALL
Type . . . . . *LIB *GRP, *LIB
+ for more values
*LIB
Include libraries with action:
Load . . . . . *YES *NO, *YES
Remove . . . . . *YES *NO, *YES
No action . . . . . *NO *NO, *LOAD, *REMOVE
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys
3
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Press Enter.

When you press Enter, Docu-Mint returns to the WWL screen. And if you press F5 after a few seconds, it should display the word *ACTIVE in the Analysis Msg ID column next to DM#DEMOLIB.

From the WWL panel you can press F14 to work with submitted jobs. Do this, and check that the library analysis is running. At this point, you may have to wait a minute or two for the analysis to finish. While you wait, here are few suggestions of other things to take a look at:

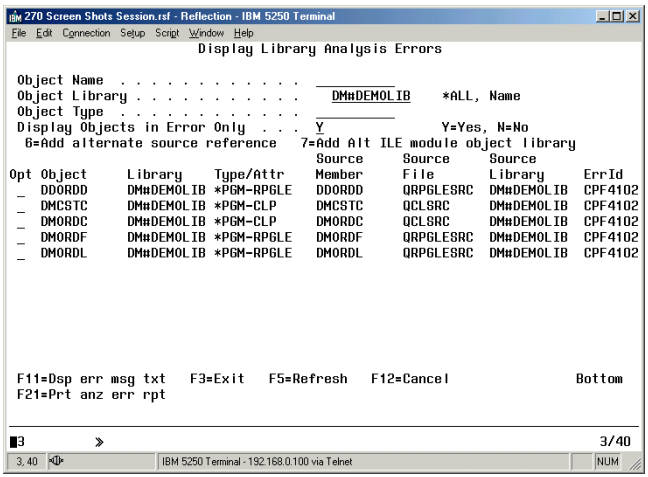
- Press F2 to go to the **Docu-Mint Main Menu**. From this menu you have access to all the tools and commands in the software. In this Quick Start exercise we will allude to some of the most useful options available from this menu. Press F3 to get back to the WWL screen.
- Back at the WWL, select option 5 next to any library to display the object count details. From this panel you can see a summary of the number of objects of different types available in the library, and work with those objects using PDM. Press F3 to get back to the WWL screen.
- Lastly, select option 14 next to any of your libraries. This prompts the CHGLIBATR command, which is a useful way to group together

related libraries so you can analyze them all at once. To do this, just type a group name for the lib and press Enter. You can also press F6 from the WWL screen to work with your existing library groups.

By now your library analysis should be complete, or close to it. Press F5 from the WWL screen to verify if the *ACTIVE message has disappeared, and the Last Anz date and time fields populated. You can also display your messages (DSPMSG) to verify that the job has finished running: among your last message should be one indicating that the analysis completed normally.

Our next step is to check the library analysis error report to see if there were any analysis problems.

To do this, select option 10 next to the library DM#DEMOLIB. The panel presented should be similar to the one shown at right:


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Library Analysis Errors
Object Name . . . . . _____
Object Library . . . . . DM#DEMOLIB *ALL, Name
Object Type . . . . . _____
Display Objects in Error Only . . . Y Y=Yes, N=No
6=Add alternate source reference 7=Add Alt ILE module object library
Opt Object Library Type/Attr Source Member Source File Source Library ErrId
_ DDORDD DM#DEMOLIB *PGM-RPGLE DDORDD QRPGLESRC DM#DEMOLIB CPF4102
_ DMCSTC DM#DEMOLIB *PGM-CLP DMCSTC QCLSRC DM#DEMOLIB CPF4102
_ DMORDC DM#DEMOLIB *PGM-CLP DMORDC QCLSRC DM#DEMOLIB CPF4102
_ DMORDF DM#DEMOLIB *PGM-RPGLE DMORDF QRPGLESRC DM#DEMOLIB CPF4102
_ DMORDL DM#DEMOLIB *PGM-RPGLE DMORDL QRPGLESRC DM#DEMOLIB CPF4102
F11=Dsp err msg txt F3=Exit F5=Refresh F12=Cancel Bottom
F21=Prt anz err rpt
3/40
3, 40
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

This panel displays a list of the objects that Docu-Mint wasn't able to fully analyze (your list may vary slightly). Though there are a wide variety of reasons why you may get analysis errors, the most common cause is that the object source wasn't found where the object expected it to be.

Even though Docu-Mint may not find the source for an object, it will still generate as much cross reference information as possible: you won't be left with absolutely no results for the object.

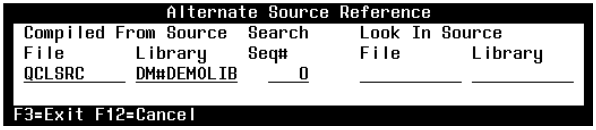
All other programs and source have been analyzed, so cleaning up these inconsistencies is optional. In cases like this, you can either address the problem by finding the missing source members and move them back to where they should be, or recompile your programs from the new location. Or, if the source and objects are where you want them already and there isn't a problem, you can define an 'alternate source reference' to point to the current source location.

At the **Display Library Analysis Errors** panel (above) you need to scan through the list and determine if there are any patterns to the errors. If necessary, press F11 to view the actual error messages associated with the IDs on the right. Do the errors represent the programs in a particular application? Do they belong to very old programs? Or perhaps it's only programs that have been converted to ILE? Keep in mind that some errors might just be one-time anomalies, where someone has compiled out of the wrong library, or mistakenly deleted source, etc. In the example above, there's no particular mystery to what happened, we just moved a few source members to a different source file, thus generating the CPF4102s.

Docu-Mint includes a useful tool for handling this type of problem: alternate source file references. These are rules that tell the analysis process that if it searches for a source member in a particular file and library and doesn't find it there, to try searching for the member in one or more alternate locations.

Let's start by adding an alternate source reference to try and catch all our problems with CL programs. In the example above, the source for those programs is actually in a source file in DM#DEMOLIB called QCLSRC2. So select option 6 next to the first of the two errors referring to CL programs.

When you do that, a window similar to this one pops up in your screen:


Alternate Source Reference
Compiled From Source Search Look In Source
File Library Seq# File Library
QCLSRC DM#DEMOLIB 0
F3=Exit F12=Cancel

Type the file name `QCLSRC2` in library `DM#DEMOLIB` as the alternate source entry. You can leave the rest of the information as is. Now press Enter until you return to the WWL screen, and once more mark the library DM#DEMOLIB *LOAD (using option 8), and then start another analysis of the library using option 6. The second (and subsequent) times you analyze a library, it will only look at changed objects or those which generated errors the first time around, so it should run fairly quickly this time.

After the analysis finishes select option 10 next to the library DM#DEMOLIB once more to review your results. The two CL programs should have disappeared from the listing.

Now add another alternate reference for the three ILE programs, as shown below:

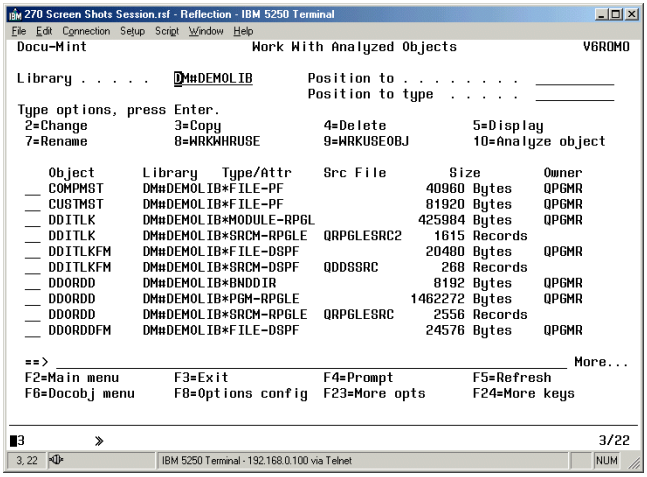
```
                Alternate Source Reference
 Compiled From Source  Search     Look In Source
 File       Library    Seq#       File       Library
 QRPGLESRC  DM#DEMOLIB    0      QRGPLESRC2 DM#DEMOLIB

F3=Exit F12=Cancel
```

The actual source locations for these programs is the file QRPGLESRC2 in DM#DEMOLIB. After adding this new rule, you can quickly mark (option 8) and analyze (option 6) the library once more, to finish collecting our results.

Once that job has finished and you have confirmed that the library was fully analyzed this time, we're ready to start working with our analysis results.

Start by selecting option 1 next to DM#DEMOLIB. This presents the **Work with Analyzed Objects (WWO)** panel, illustrated at right:

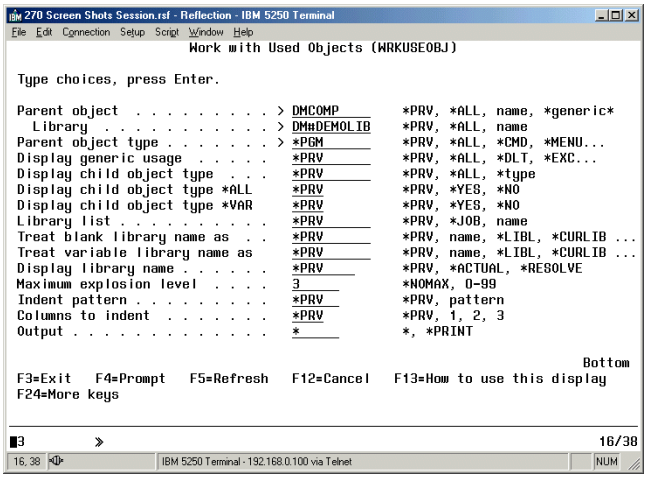

270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Work With Analyzed Objects V6ROMO
Library . . . . . DM#DEMOLIB
Position to . . . . . .
Position to type . . . . .
Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display
7=Rename 8=WRKWHRUSE 9=WRKUSEOBJ 10=Analyze object
Object Library Type/Attr Src File Size Owner
COMPMST DM#DEMOLIB*FILE-PF 40960 Bytes QPGMR
CUSTMST DM#DEMOLIB*FILE-PF 81920 Bytes QPGMR
DDITLK DM#DEMOLIB*MODULE-RPGL 425984 Bytes QPGMR
DDITLK DM#DEMOLIB*SRCM-RPGLE QRPGLESRC2 1615 Records
DDITLKFM DM#DEMOLIB*FILE-DSPF 20480 Bytes QPGMR
DDITLKFM DM#DEMOLIB*SRCM-DSPF QDDSSRC 268 Records
DDORDD DM#DEMOLIB*BNDDIR 8192 Bytes QPGMR
DDORDD DM#DEMOLIB*PGM-RPGLE 1462272 Bytes QPGMR
DDORDD DM#DEMOLIB*SRCM-RPGLE QRPGLESRC 2556 Records
DDORDDFM DM#DEMOLIB*FILE-DSPF 24576 Bytes QPGMR
==> More...
F2=Main menu F3=Exit F4=Prompt F5=Refresh
F6=Docobj menu F8=Options config F23=More opts F24=More keys
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

This panel displays a list of all the objects and source members in the selected library (DM#DEMOLIB).

The WWO screen also supports a 132 column display, if your emulation is set up that way.

From here you can select from a number of options related to cross-referencing programs, files and other objects on your system. As with the WWL panel options, those available on this screen are a hybrid of PDM and Docu-Mint functions. To see exactly what each option does, you can press F8=Options config from this screen. From the panel presented you can review or change the existing options, or even add new ones of your own. Of particular interest are the Docu-Mint WRKWHRUSE and WRKUSEOBJ commands, as well as the option 10 shortcut to analyze changed objects individually.

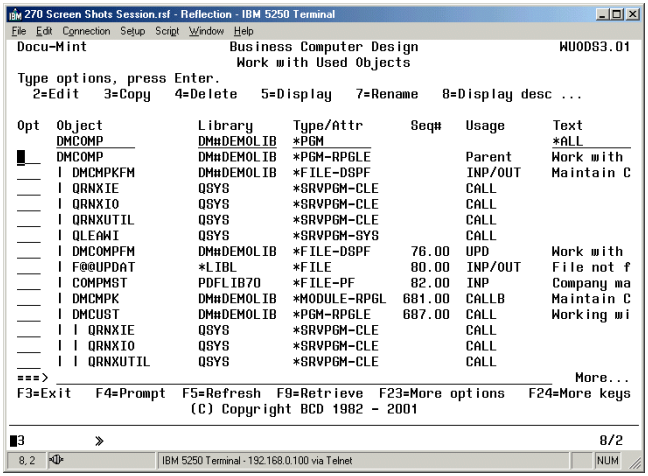
Position the list to the object DMCOMP, of type *PGM-RPGLE, and select an option 9=WRKUSEOBJ next to it. The panel presented is shown at right:


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Used Objects (WRKUSEOBJ)
Type choices, press Enter.
Parent object . . . . . > DMCOMP *PRV, *ALL, name, *generic*
Library . . . . . > DM#DEMOLIB *PRV, *ALL, name
Parent object type . . . . . > *PGM *PRV, *ALL, *CMD, *MENU...
Display generic usage . . . . . *PRV *PRV, *ALL, *DLT, *EXC...
Display child object type . . . *PRV *PRV, *ALL, *type
Display child object type *ALL *PRV *PRV, *YES, *NO
Display child object type *VAR *PRV *PRV, *YES, *NO
Library list . . . . . *PRV *PRV, *JOB, name
Treat blank library name as . . *PRV *PRV, name, *LIBL, *CURLIB ...
Treat variable library name as *PRV *PRV, name, *LIBL, *CURLIB ...
Display library name . . . . . *PRV *PRV, *ACTUAL, *RESOLVE
Maximum explosion level . . . . 3 *NOMAX, 0-99
Indent pattern . . . . . *PRV *PRV, pattern
Columns to indent . . . . . *PRV *PRV, 1, 2, 3
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
3
16/38
16, 38
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Change the Maximum explosion level to 3, and leave all the other parms as is. Then press Enter.

Docu-Mint will display the message 'Building the used objects list…', and in a few seconds will display the next panel shown below.

This is the output from running the WRKUSEOBJ command over the program DMORDE, with an explosion level of 3:

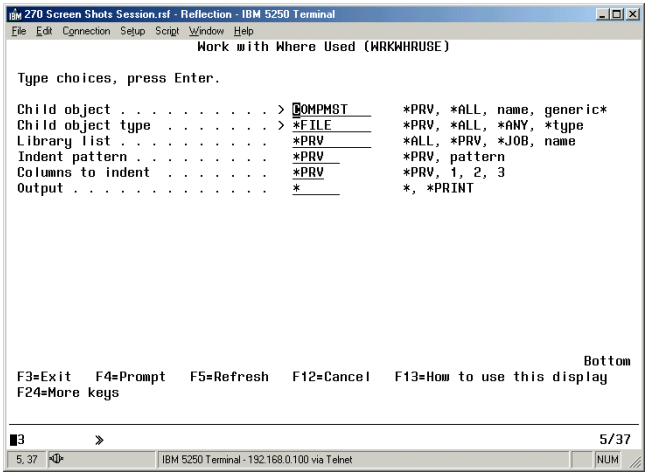

270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Business Computer Design WUODS3.01
Work with Used Objects
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display desc ...
Opt Object Library Type/Attr Seq# Usage Text
DMCOMP DM#DEMOLIB *PGM *ALL
DMCOMP DM#DEMOLIB *PGM-RPGLE Parent Work with
| DMCMPKFM DM#DEMOLIB *FILE-DSPF INP/OUT Maintain C
| QRNXIE QSYS *SRVPGM-CLE CALL
| QRNXIO QSYS *SRVPGM-CLE CALL
| QRNXUTIL QSYS *SRVPGM-CLE CALL
| QLEAWI QSYS *SRVPGM-SYS CALL
| DMCOMPFM DM#DEMOLIB *FILE-DSPF 76.00 UPD Work with
| F@@UPDAT *LIBL *FILE 80.00 INP/OUT File not f
| COMPMST PDFLIB70 *FILE-PF 82.00 INP Company ma
| DMCMPK DM#DEMOLIB *MODULE-RPGL 681.00 CALLB Maintain C
| DMCUST DM#DEMOLIB *PGM-RPGLE 687.00 CALL Working wi
| | QRNXIE QSYS *SRVPGM-CLE CALL
| | QRNXIO QSYS *SRVPGM-CLE CALL
| | QRNXUTIL QSYS *SRVPGM-CLE CALL
===> More...
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F23=More options F24=More keys
(C) Copyright BCD 1982 - 2001
3
8/2
8, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Using the display at right you can enter a new parent object name/lib/type to reload the list according to revised or subsetted criteria. For example, if you type DMMENU for the object name, the list is dynamically rebuilt to display that as the parent object.

This is useful where you have run the original command over a broad range of parent objects, and later want to focus in on the child objects of just one or a few of those that come up in the list.

Now return to the WWO screen, and select option 8=WRKWHRUSE on the file COMPMST.

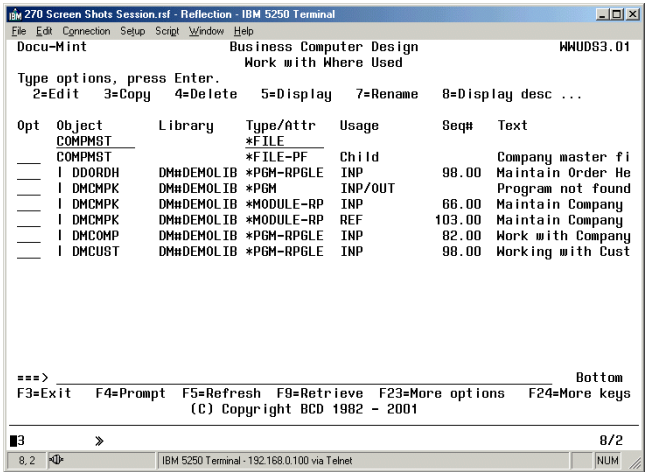
At right is an illustration of the panel presented:


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Where Used (WRKWHRUSE)
Type choices, press Enter.
Child object . . . . . > COMPMST *PRV, *ALL, name, generic*
Child object type . . . . . > *FILE *PRV, *ALL, *ANY, *type
Library list . . . . . *PRV *ALL, *PRV, *JOB, name
Indent pattern . . . . . *PRV *PRV, pattern
Columns to indent . . . . . *PRV *PRV, 1, 2, 3
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
5/37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

You can use this command to present a list of the objects that use the one(s) that you choose. When you execute this option, you can select the object and object type, as well as the range of libraries to run over. For this example, make sure that you have DM#DEMOLIB in your library list before running the command, as your run-time library list affects the content of your output.

Press Enter to accept the defaults shown above.

At right is an illustration of the output:

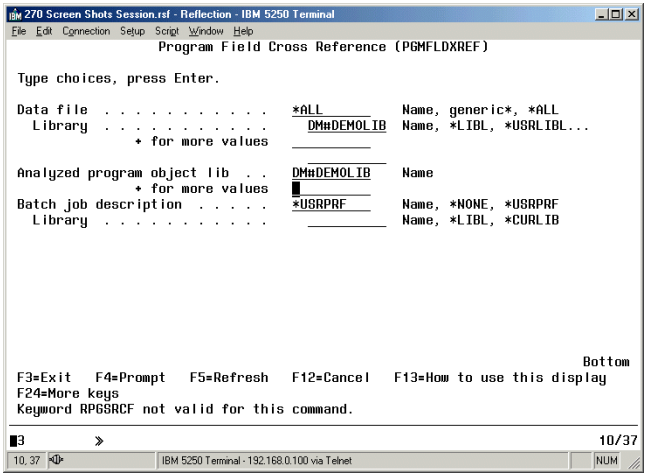

270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Business Computer Design WWUDS3.01
Work with Where Used
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display desc ...
Opt Object Library Type/Attr Usage Seq# Text
COMPMST *FILE
COMPMST *FILE-PF Child Company master fi
| DDORDH DM#DEMOLIB *PGM-RPGLE INP 98.00 Maintain Order He
| DMCMPK DM#DEMOLIB *PGM INP/OUT Program not found
| DMCMPK DM#DEMOLIB *MODULE-RP INP 66.00 Maintain Company
| DMCMPK DM#DEMOLIB *MODULE-RP REF 103.00 Maintain Company
| DMCOMP DM#DEMOLIB *PGM-RPGLE INP 82.00 Work with Company
| DMCUST DM#DEMOLIB *PGM-RPGLE INP 98.00 Working with Cust
===>
Bottom
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F23=More options F24=More keys
(C) Copyright BCD 1982 - 2001
8/2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

This displays a list of the programs that use the file COMPMST. Details include the way the file is used and the statement number at which that happens. From this panel you can select option 2 to drop into the source for the selected program. Note that this panel also supports a 132 column display, if you have your emulation set up that way.

When you finish reviewing the output, press F3 until you get back to the **Work with Analyzed Objects** panel. At that panel, press F2 to go to the **Docu-Mint Main Menu**, and we'll now try one of the field cross reference reports.

From the Main Menu, select option 3 to go to the **Field Cross Reference Menu** (DM#FLD). Select option 1 from menu DM#FLD to run the PGMFLDXREF (Program Field Cross Reference) command, and press Enter.

Fill in the parms for the PGMFLDXREF command as shown at right.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Program Field Cross Reference (PGMFLDXREF)
Type choices, press Enter.
Data file . . . . . *ALL Name, generic*, *ALL
Library . . . . . DM#DEMOLIB Name, *LIBL, *USRLIBL...
+ for more values
Analyzed program object lib . . DM#DEMOLIB Name
+ for more values
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
Keyword RPGSRCF not valid for this command.
10/37
10, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

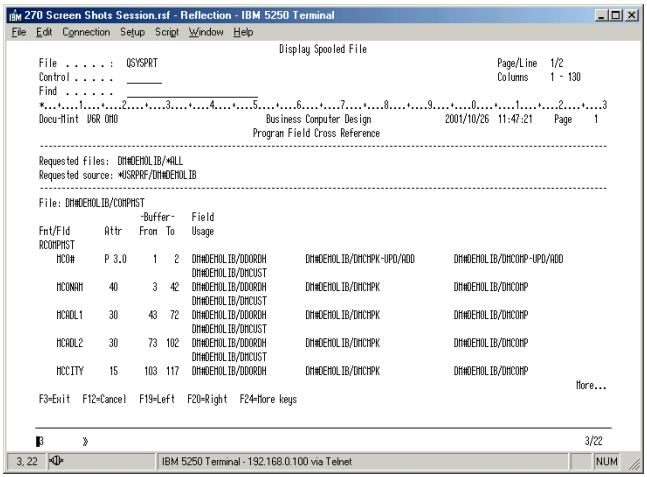
For this example, we are going to cross reference all the files in the library DM#DEMOLIB against the programs in the same lib.

When you finish entering the values shown, press Enter to submit the job.

Docu-Mint will return to the menu DM#FLD, and display a message that the job was submitted.

Press F18 from menu DM#FLD to work with the output from the report. The file is QSYSPRT, and the User Data is PgmFldXref - it should be about 15 pages.

Select an option 5=Display next to this report. The first page should be similar to the one shown at right:



At the left of the display is a list of fields in each file selected. To the right of that are the field attributes, and finally, a list of programs in which the fields appear and their usage in those programs. Additional entries are displayed to the right, with extra lines inserted where necessary.

Press F12 twice to return to the menu DM#FLD. If you like, you can try out the other commands before moving on to the next section.

When you're ready to continue, press F3 a few times from menu DM#FLD to return to the **Work with System Libraries** panel. Then press F18 to work with the **Extended Field Analysis** functions. This screen will initially show no entries.

The Extended Field Analysis functions in Docu-Mint allow you to define specific field identification criteria to locate certain types of fields in your files and programs, and identify their usage. Once the fields have been found, you can also access info on how they affect and are affected by other fields.

Please refer to Part IV of this guide for a comprehensive description of how to use the Extended Field Analysis functions, and how to use *FILE and *PGM analyses together.

To illustrate this feature, we're going to work through a scenario where we'll be making some updates to an application for a client in Argentina. Due to the catastrophic inflation there over the last few years, we now need to find all the files and programs that have price or cost fields in them, so we can increase the size of the fields to accommodate all the extra zeros.

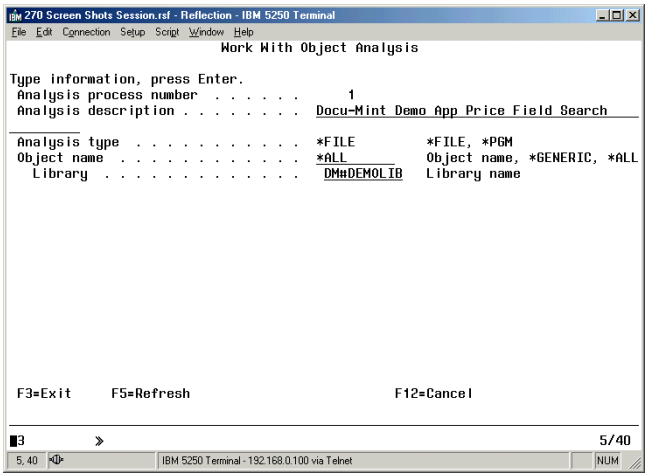
To begin, press F6 from the **Work with Extended Field Analysis** panel to create a new analysis. A window will pop up prompting you for the analysis type: Enter *FILE, as shown here:

```
Object Analysis Creation

  Analysis type . . . .  *FILE   *PGM, *FILE
F12=Cancel
```

We will start by building a *FILE analysis, and then incorporate the results from it into a *PGM analysis we'll create afterwards.

When you key in the analysis type and press Enter, the panel at right will appear.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Object Analysis
Type information, press Enter.
Analysis process number 1
Analysis description . . . . . Docu-Mint Demo App Price Field Search
Analysis type . . . . . *FILE *FILE, *PGM
Object name . . . . . *ALL Object name, *GENERIC, *ALL
Library . . . . . DM#DEMOLIB Library name
F3=Exit F5=Refresh F12=Cancel
3 5/40
5, 40 IBM 5250 Terminal - 192.168.0.100 via Telnet NUM

Type a description for the analysis, and enter the objects that it will be built over: `*ALL`, in `DM#DEMOLIB`.

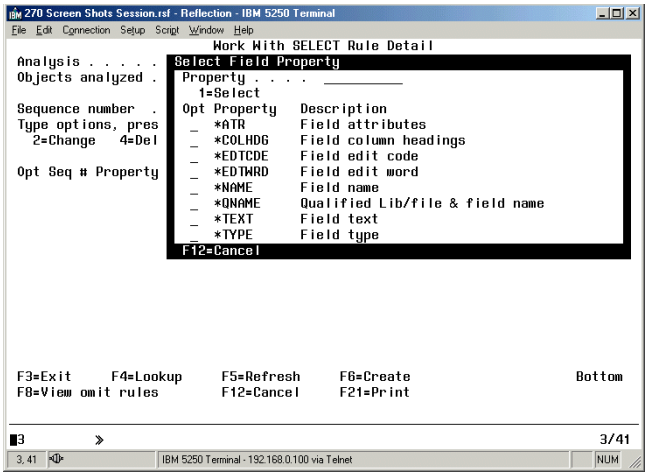
Press Enter twice.

When you do so, Docu-Mint takes you directly to the panel for defining SELECT rules.

The next step is to define the rules for our analysis. These will be the criteria that Docu-Mint will use to search through our files.

Press F6 to create a new rule.

When you press F6, the prompt window shown at right appears.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With SELECT Rule Detail
Analysis . . . . .
Objects analyzed .
Sequence number .
Type options, pres
2=Change 4=Del
Opt Seq # Property
Select Field Property
Property . . . . _____
1=Select
Opt Property Description
_ *ATR Field attributes
_ *COLHDG Field column headings
_ *EDTCDE Field edit code
_ *EDTWRD Field edit word
_ *NAME Field name
_ *QNAME Qualified Lib/file & field name
_ *TEXT Field text
_ *TYPE Field type
F12=Cancel
F3=Exit F4=Lookup F5=Refresh F6=Create Bottom
F8=View omit rules F12=Cancel F21=Print
3/41
3, 41
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Type a number 1 next to the *ATR field property, and press Enter to begin building the rule.

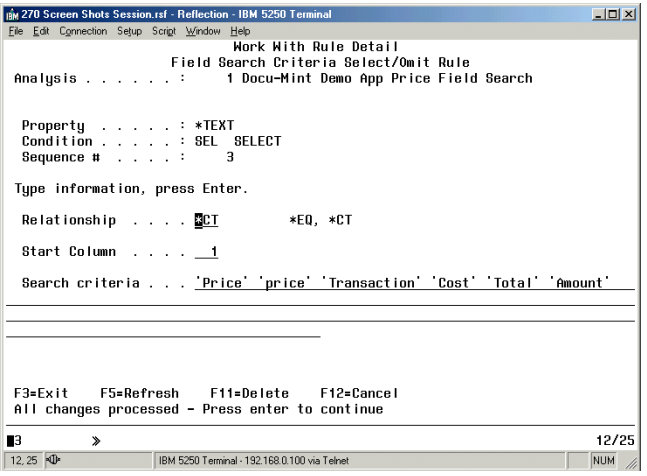
Define your first rule to trap all Numeric fields that are 7 digits long with 2 decimals.

After you do this, press Enter twice to return to the **Work with SELECT Rule Detail** panel. Press F6 to create a second *ATR rule, and this time select all the numeric fields that are 5, 2 N. Again, press Enter twice to return to the panel showing your rules so far.

When you define multiple selection rules, these are applied in your analysis with an 'OR' condition, meaning that all fields that satisfy ANY of the selection criteria are initially included in the results.

Now press F6 again to create a new rule, and this time select a rule of type *TEXT (to check the field text for specific character strings).

Define the *TEXT rule as shown at right. We are telling Docu-Mint to include all fields where the field text contains any of the character strings entered. Multiple character strings have to be enclosed in single quotes with one space between them.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 1 Docu-Mint Demo App Price Field Search
Property . . . . . : *TEXT
Condition . . . . . : SEL SELECT
Sequence # . . . . : 3
Type information, press Enter.
Relationship . . . . *CT *EQ, *CT
Start Column 1
Search criteria . . . 'Price' 'price' 'Transaction' 'Cost' 'Total' 'Amount'
F3=Exit F5=Refresh F11=Delete F12=Cancel
All changes processed - Press enter to continue
12/25
12, 25
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

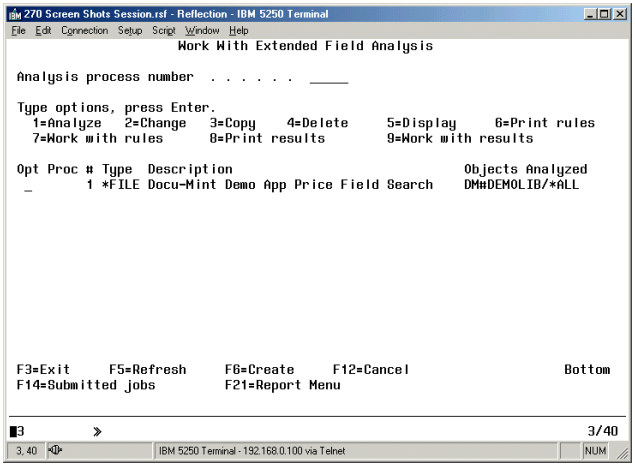
Press Enter twice to return to the **Work with SELECT Rule Detail** panel.

After we build our select rules and run the analysis the first time, we'll come back and define an OMIT rule to exclude some general types of fields that we don't want to see.

Press Enter once more to return to the **Work with Extended Field Analysis** panel. Your analysis should now be shown in the list as below.

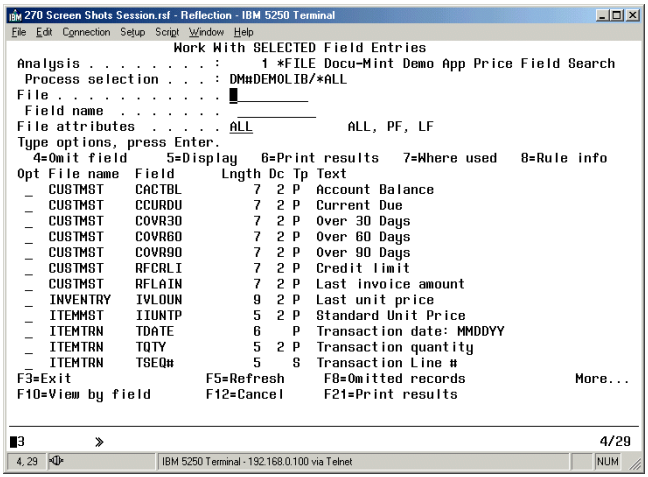
Select option 1 next to your analysis to run it.

When you press Enter a window appears prompting you for a batch job description. Just press Enter and Docu-Mint will submit the analysis and then return to the panel at right.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Extended Field Analysis
Analysis process number . . . . . ____
Type options, press Enter.
1=Analyze 2=Change 3=Copy 4=Delete 5=Display 6=Print rules
7=Work with rules 8=Print results 9=Work with results
Opt Proc # Type Description Objects Analyzed
_ 1 *FILE Docu-Mint Demo App Price Field Search DM#DEMOLIB/*ALL
F3=Exit F5=Refresh F6=Create F12=Cancel Bottom
F14=Submitted jobs F21=Report Menu
3
3/40
3, 40
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Once the analysis has completed (you can press F14 to confirm that it has), select option 9 next to your analysis (in the panel at right) to present a panel to work with your results.

The first panel of your results should be similar to the one shown at right:


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With SELECTED Field Entries
Analysis . . . . . : 1 *FILE Docu-Mint Demo App Price Field Search
Process selection . . . : DM#DEMOLIB/*ALL
File . . . . . _
Field name . . . . . _
File attributes . . . . . ALL ALL, PF, LF
Type options, press Enter.
4=Omit field 5=Display 6=Print results 7=Where used 8=Rule info
Opt File name Field Lngth Dc Tp Text
CUSTMST CACTBL 7 2 P Account Balance
CUSTMST CCURDU 7 2 P Current Due
CUSTMST COVR30 7 2 P Over 30 Days
CUSTMST COVR60 7 2 P Over 60 Days
CUSTMST COVR90 7 2 P Over 90 Days
CUSTMST RFCRLI 7 2 P Credit limit
CUSTMST RFLAIN 7 2 P Last invoice amount
INVENTRY IVLOUN 9 2 P Last unit price
ITEMMST IIUNTP 5 2 P Standard Unit Price
ITEMTRN TDATE 6 P Transaction date: MMDDYY
ITEMTRN TQTY 5 2 P Transaction quantity
ITEMTRN TSEQ# 5 S Transaction Line #
F3=Exit F5=Refresh F8=Omitted records More...
F10=View by field F12=Cancel F21=Print results
3
4/29
4, 29
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Note that besides the various amount fields we wanted to trap, we also collected a number of other fields that we weren't particularly looking for.

We could actually eliminate most, if not all, of the unwanted entries by removing the word 'Transaction' from our *TEXT select rule, but let's try a couple of other techniques, for illustrative purposes.

The easiest way to eliminate an individual entry from your results is to select option 4=Omit field next to that line. Try that, for the field TDATE in file ITEMTRN. When you press Enter, Docu-Mint issues a message 'Selected field is now explicitly omitted. Rule detail entry added.'. What this message means is that a new rule has been created which specifically excludes that entry, so when you next run the analysis, even though it matches other Select criteria, it will be excluded from the results.

You can press F8 from the panel above screen to toggle the view to show records that have been specifically excluded, and option 8 from that screen (or the one above) will display additional details about the rule that selected or omitted the entry.

However, if you were doing an analysis of dozens or hundreds of files, then individually deselecting the unwanted fields would be an inefficient way to tackle this. More likely you would want to review your results and look for patterns, and then create Omit rules that remove a wider set of records.

For example, one Omit rule that we could define would be to exclude alpha fields. To create this rule, press F3 (once or twice) from where you are to return to the **Work with Extended Field Analysis** panel, and then select option 7 next to the *FILE analysis we have created to work with your rules.

At the panel presented, press F8 to work with your omit rules. Note the one already there, of type *QNAME (Qualified Field Name). Press F6 to create another entry.

The prompt below is presented:

```
Select Field Property
 Property . . . .  __________
   1=Select
 Opt Property   Description
  _   *ATR       Field attributes
  _   *COLHDG    Field column headings
  _   *EDTCDE    Field edit code
  _   *EDTWRD    Field edit word
  _   *NAME      Field name
  _   *QNAME     Qualified Lib/file & field name
  _   *TEXT      Field text
  _   *TYPE      Field type
 F12=Cancel
```

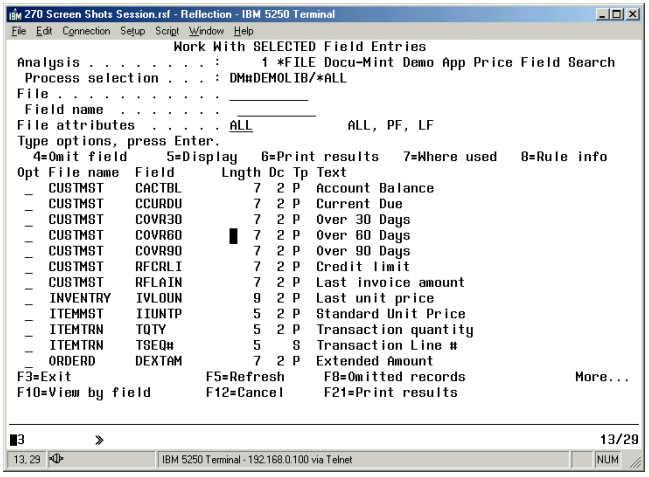
Select the last option: *TYPE. At the panel presented, enter a field type of A (for Alpha).

After defining your new rule, press Enter until you return to the **Work with Extended Field Analysis** panel. Once more select an option 1 next to your *FILE analysis to run it. When you do this, the previous results are cleared and the list is rebuilt according to the new criteria.

When it finishes running, again select an option 9 next to it to work with the results.

The results should now be similar to the list shown at right.

Note that there are still a couple of fields we don't need to see: the Transaction quantity and the Transaction Line # fields.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With SELECTED Field Entries
Analysis . . . . . : 1 *FILE Docu-Mint Demo App Price Field Search
Process selection . . . : DM#DEMOLIB/*ALL
File . . . . . _____
Field name . . . . . _____
File attributes . . . . . ALL ALL, PF, LF
Type options, press Enter.
4=Omit field 5=Display 6=Print results 7=Where used 8=Rule info
Opt File name Field Lngth Dc Tp Text
_ CUSTMST CACTBL 7 2 P Account Balance
_ CUSTMST CCURDU 7 2 P Current Due
_ CUSTMST COVR30 7 2 P Over 30 Days
_ CUSTMST COVR60 7 2 P Over 60 Days
_ CUSTMST COVR90 7 2 P Over 90 Days
_ CUSTMST RFCRLI 7 2 P Credit limit
_ CUSTMST RFLAIN 7 2 P Last invoice amount
_ INVENTRY IVLOUN 9 2 P Last unit price
_ ITEMMST IIUNTP 5 2 P Standard Unit Price
_ ITEMTRN TQTY 5 2 P Transaction quantity
_ ITEMTRN TSEQ# 5 0 S Transaction Line #
_ ORDERD DEXTAM 7 2 P Extended Amount
F3=Exit F5=Refresh F8=Omitted records More...
F10=View by field F12=Cancel F21=Print results
3
13/29
13, 29
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Use option 4 to omit the field TQTY and TSEQ#.

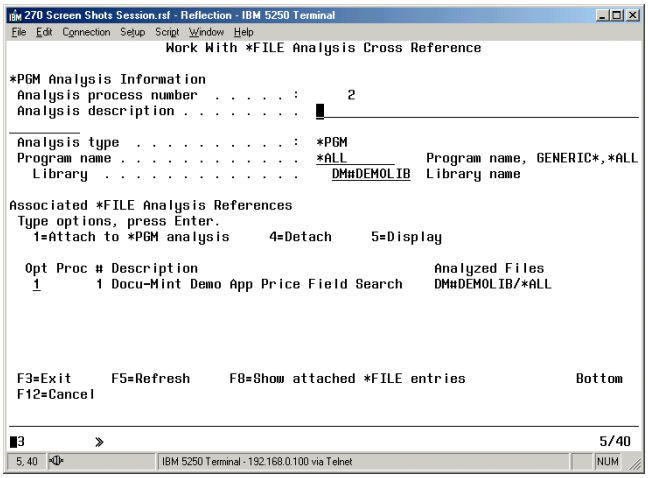
After you select an option 4 for each of those records, press F8 to view the omitted records.

If you mistakenly omitted a field that you DID want to include, you can just toggle to display the list of omitted fields (above at right) and select an option 4=Select field.

Press Enter to continue. Then press Enter once more from your list of fields to return to the **Work with Extended Field Analysis** panel.

Now we're going to create a *PGM analysis based on this *FILE analysis. The *PGM analysis will identify which programs and source specs need to be changed to accommodate the new price and amount field formats.

Press F6 to create a new analysis, and at the window presented, enter a type of *PGM and press Enter. At right is the **Work with *FILE Analysis Cross Reference** panel. From here you can link any number of *FILE analyses to your *PGM analysis.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With *FILE Analysis Cross Reference
*PGM Analysis Information
Analysis process number . . . . . : 2
Analysis description . . . . . :
Analysis type . . . . . : *PGM
Program name . . . . . : *ALL Program name, GENERIC*,*ALL
Library . . . . . : DM#DEMOLIB Library name
Associated *FILE Analysis References
Type options, press Enter.
1=Attach to *PGM analysis 4=Detach 5=Display
Opt Proc # Description Analyzed Files
1 1 Docu-Mint Demo App Price Field Search DM#DEMOLIB/*ALL
F3=Exit F5=Refresh F8=Show attached *FILE entries Bottom
F12=Cancel
5/40
5, 40
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Type a description for your analysis. For the program name enter `*ALL` in `DM#DEMOLIB`. Also, select an option 1 next to the *FILE analysis we created, in order to use the results from that in our *PGM analysis, as shown here.

For a complete explanation of the relationship between *PGM and *FILE analyses, please refer to Chapter 11, **Extended Field Analysis Functions**.

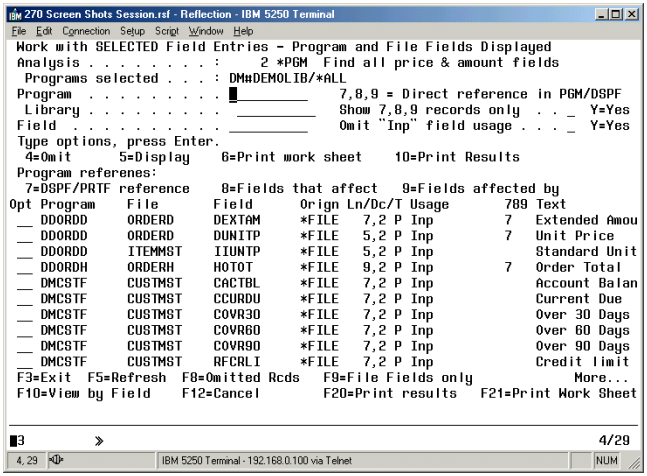
When you press Enter, Docu-Mint will indicate that the selected *FILE analysis has been linked to the new *PGM analysis. Then, when you press Enter once more, Docu-Mint presents the **Work with Select Rule Detail** panel.

We don't need to create any more new rules, so just press Enter on this panel to return to the **Work with Extended Field Analysis** panel, which now includes your new *PGM analysis in the list. Select an option 1 next to the *PGM analysis to run it. At the **Submit Analysis Process** window, press Enter to submit the job.

You can press F14=WRKSBMJOB to monitor the progress of the job.

When the job finishes running (and disappears from your list of submitted jobs), select option 9 next to your *PGM analysis to work with the results.

The results should be similar to those shown in the panel at right.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with SELECTED Field Entries - Program and File Fields Displayed
Analysis . . . . . : 2 *PGM Find all price & amount fields
Programs selected . . . : DM#DEMOLIB/*ALL
Program . . . . . 7,8,9 = Direct reference in PGM/DSPF
Library . . . . . Show 7,8,9 records only . . Y=Yes
Field . . . . . Omit "Inp" field usage . . . Y=Yes
Type options, press Enter.
4=Omit 5=Display 6=Print work sheet 10=Print Results
Program referenes:
7=DSPF/PRTF reference 8=Fields that affect 9=Fields affected by
Opt Program File Field Orign Ln/Dc/T Usage 789 Text
DDORDD ORDERD DEXTAM *FILE 7,2 P Inp 7 Extended Amou
DDORDD ORDERD DUNITP *FILE 5,2 P Inp 7 Unit Price
DDORDD ITEMMST IIUNTP *FILE 5,2 P Inp Standard Unit
DDORDH ORDERH HOTOT *FILE 9,2 P Inp 7 Order Total
DMCSTF CUSTMST CACTBL *FILE 7,2 P Inp Account Balan
DMCSTF CUSTMST CCURDU *FILE 7,2 P Inp Current Due
DMCSTF CUSTMST COVR30 *FILE 7,2 P Inp Over 30 Days
DMCSTF CUSTMST COVR60 *FILE 7,2 P Inp Over 60 Days
DMCSTF CUSTMST COVR90 *FILE 7,2 P Inp Over 90 Days
DMCSTF CUSTMST RFCRLI *FILE 7,2 P Inp Credit limit
F3=Exit F5=Refresh F8=Omitted Rcds F9=File Fields only More...
F10=View by Field F12=Cancel F20=Print results F21=Print Work Sheet
3
4/29
4, 29
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

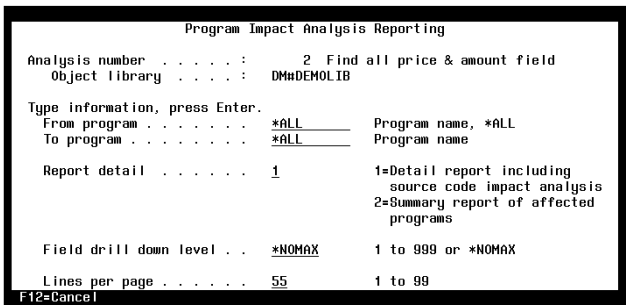
This panel shows the usage of the fields selected by our *FILE analysis, in the programs included in our *PGM analysis. Because you aren't familiar with the sample files and programs, the information shown here probably isn't completely meaningful to you. Once you are done with this exercise, we recommend you duplicate the steps with some of your own files, then spend some time here familiarizing yourself with the info presented.

This panel is described in Chapter 11, **Extended Field Analysis Functions**.

To conclude this exercise, we are going to print the work sheet of our results. The work sheet identifies what programs and specific source specs need to be changed.

Press F21=Print Work Sheet from the panel above.

When you do so, the report prompt is shown, as at right:

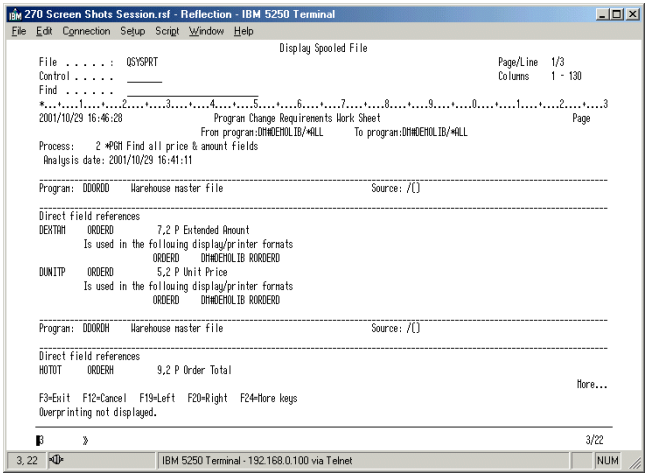

Program Impact Analysis Reporting
Analysis number . . . . . : 2 Find all price & amount field
Object library . . . . : DM#DEMOLIB
Type information, press Enter.
From program . . . . . *ALL Program name, *ALL
To program . . . . . *ALL Program name
Report detail . . . . . 1 1=Detail report including source code impact analysis
2=Summary report of affected programs
Field drill down level . . *NOMAX 1 to 999 or *NOMAX
Lines per page . . . . . 55 1 to 99
F12=Cancel

In this instance we'll accept the defaults, which is to print a detail report, with *NOMAX as the drill down level.

Press Enter to submit the report, then enter twice more to return to the **Work with System Libraries** panel.

At the command line, run the command WRKSBMJOB and check that your job is running; the job is FLDTOFLD. When it finishes, select an option 8 next to it, and then an option 5. The first page of the report will be similar to the one shown here.

Roll through the report to get a sense of the information provided.


270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Spooled File
File . . . . . : QSYSPRT
Page/Line 1/3
Control . . . . . _____
Columns 1 - 130
Find . . . . . _____
2001/10/29 16:46:28
Program Change Requirements Work Sheet
Page
From program:DTAADEMOLIB/*ALL To program:DTAADEMOLIB/*ALL
Process: 2 *PGM Find all price & amount fields
Analysis date: 2001/10/29 16:41:11
Program: DDORDD Warehouse master file
Source: /()
Direct field references
DEXTAM ORDERD 7,2 P Extended Amount
Is used in the following display/printer formats
ORDERD DTAADEMOLIB RORDERD
DUNITP ORDERD 5,2 P Unit Price
Is used in the following display/printer formats
ORDERD DTAADEMOLIB RORDERD
Program: DDORDH Warehouse master file
Source: /()
Direct field references
HOTOT ORDERH 9,2 P Order Total
More...
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys
Overprinting not displayed.
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Chapter 11, **Extended Field Analysis Functions** provides additional information on this and other reports, as well as more complex and relevant examples.

You have now completed the Docu-Mint Quick Start. As your next step, we recommend that you mark and analyze a small set of your own libraries, where you are familiar with the data and programs. After completing the first analysis, check for analysis errors, using option 10 from the **Work with System Libraries** panel. Once you have defined the necessary alternate source file reference options to clean up the irregularities in your libraries (if any), you can analyze them again, and continue on to trying out the different reports.

Finally, try creating an extended field analysis over your libraries, and spend some time reviewing and adjusting your output, and experimenting with the many options provided for this.

If you have any questions or problems at any time, please contact BCD Tech Support by any of the means described in the Tech Support Guide included with your documentation.

SECTION

II

Working With Libraries and Objects

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CHAPTER 3

Working with System Libraries

Introduction and Overview

Docu-Mint uses an interface similar to PDM to allow you to analyze and work with your libraries and the objects they contain. The first step is to select and analyze the libraries that you want to work with, and then fine-tune the results of your analysis to ensure that achieve the most complete results possible. Once you are satisfied with the quality of each library analysis, you can start working with the results.

To begin working with Docu-Mint, add DM#LIB to your library list, and execute the STRDOC command. The first screen presented is the **Work with System Libraries** panel. This panel, described in detail in this chapter, lists the libraries on your system and some details on when each was last analyzed.

From the **Work with System Libraries (WWL)** panel you can press F2 to present the Docu-Mint Main Menu, or select from the many other options available for working with your libraries. There are also function keys to take you to all the other main Docu-Mint menus.

From the WWL screen you can use option 8=Mark lib *LOAD to easily mark your libraries to be loaded into the internal Docu-Mint database. Once you have marked all the libraries you want to analyze, you can then initiate the library analysis with option 6=Start lib anz. After the analyses are complete, you can use option 10=View/print err to display and work with the analysis errors you encounter in each library. If there are any patterns to your analysis errors, you can create alternate source file references to address these, and then quickly reanalyze the library to update your results.

After you have confirmed that your results are as complete as possible, you can select option 1 next to your library to present the **Work with Analyzed Objects (WWO)** screen (described in the next chapter). From this panel you can execute a wide variety of options for working with your analysis results, including the

commonly used WWU and WUO commands. And if there's an option that you need there, but doesn't currently exist, you can easily create it.

Between the WWL and WWO screens, you should have access through the options and function keys to most of the important features and reports available in Docu-Mint.

The remainder of this chapter describes in detail how to use the **Work with System Libraries** panel, and all the options available from that screen. Please take the time to review each section and become familiar with the interface, as it will be the key to your effective use of the software.

Work with System Libraries

The **Work with System Libraries (WWL)** screen is the initial panel presented when you run the STRDOC command. If you have used previous versions of the software, you can get to the older menu system by pressing F2 from this panel, or make your default initial screen by using the CFGSTRDOC command.

Below is an illustration of the WWL panel:

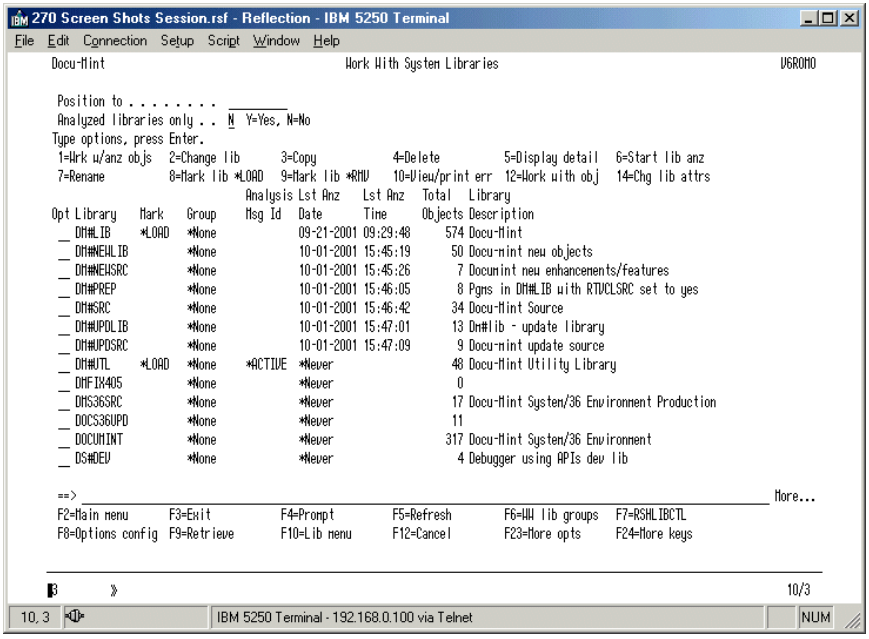
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Work With Systen Libraries V6ROM0
Position to . . . . . _____
Analyzed libraries only . . N Y=Yes, N=No
Type options, press Enter.
1=Wrk w/anz objs 2=Change lib 3=Copy 4=Delete 5=Display detail 6=Start lib anz
7=Rename 8=Mark lib *LOAD 9=Mark lib *RMV 10=View/print err 12=Work with obj 14=Chg lib attrs
Analysis Lst Anz Lst Anz Total Library
Opt Library Mark Group Msg Id Date Time Objects Description
_ DM#LIB *LOAD *None 09-21-2001 09:29:48 574 Docu-Mint
_ DM#NEWLIB *None 10-01-2001 15:45:19 50 Docu-mint new objects
_ DM#NEWSRC *None 10-01-2001 15:45:26 7 Documint new enhancenents/features
_ DM#PREP *None 10-01-2001 15:46:05 8 Pgms in DM#LIB with RTVCLSRC set to yes
_ DM#SRC *None 10-01-2001 15:46:42 34 Docu-Mint Source
_ DM#UPDLIB *None 10-01-2001 15:47:01 13 Dm#lib - update library
_ DM#UPDSRC *None 10-01-2001 15:47:09 9 Docu-mint update source
_ DM#UTL *LOAD *None *ACTIVE *Never 48 Docu-Mint Utility Library
_ DMFIX405 *None *Never 0
_ DMS36SRC *None *Never 17 Docu-Mint Systen/36 Environment Production
_ DOCS36UPD *None *Never 11
_ DOCUMINT *None *Never 317 Docu-Mint Systen/36 Environment
_ DS#DEV *None *Never 4 Debugger using APIs dev lib
==> More...
F2=Main menu F3=Exit F4=Prompt F5=Refresh F6=WW lib groups F7=RSHLIBCTL
F8=Options config F9=Retrieve F10=Lib menu F12=Cancel F23=More opts F24=More keys
10/3
10, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 3-1.

Using the WWL Panel

The **Work with System Libraries** panel presents a snapshot of the libraries on your system along with some additional information about each of them. In particular, it shows the current mark status of the library, and if and when each library has been analyzed by Docu-Mint. From this panel you also have direct access to many of the most important functions of the software, including the **Work with Analyzed Objects** screen (described in the next chapter).

The illustration above displays the panel in 132 column mode. Yours will also display that way, if your emulation is set up to that. If not, only 80 columns are displayed and the library description is only shown when you press F11=Alternate View.

Use the library entry field at the top of the panel to position the display to a particular library name, or use the Page Up and Page Down keys to scroll through the list. In addition, there is also a filtering option that allows you to set the list to show only analyzed libraries. To do this, just type Y into the 'Analyzed libraries only' option and press Enter.

The options and function keys on the **Work with System Libraries** panel are a hybrid of those available from the **Work with Libraries Using PDM** panel and of functionality specific to Docu-Mint. You can also tailor the available options to suit your specific needs by pressing F8=Options Config and making changes to the default set.

Below is a detailed description of the WWL panel and all its options and functions.

Library Information Displayed

As mentioned above, when you first present the **Work with System Libraries** panel, it displays a list of libraries along with some summary information about each of them. Other than the library description, this information corresponds to what is gathered as a result of the Docu-Mint analysis process. The information includes the following columns:

- Mark - The selected action to be executed for the library next time it is analyzed.
- Group - The library group name (if any) that the library belongs to.
- Analysis Msg ID - The last analysis error message ID (if any problems were encountered), or *ACTIVE for libraries currently being analyzed.

- Lst Anz Date/Time - The date and time that the library was last analyzed.
- Total Objects - The total number of objects in the library.
- Library Description - The library description.

In 80 column mode, press F11 to toggle between views showing all this information.

Explanation of WWL Options

The options available at the **Work with System Libraries** panel combine Docu-Mint specific functionality with standard PDM options. You can also customize many of the existing options or add new ones of your own. A later section below describes how to do this. This section describes the default options as they are set when you first install the software.

1=Wrk w/anz objs

Option 1 presents the **Work with Analyzed Objects** (WWO) panel, from which you can view and work with a list of all the objects included in an analyzed library. The WWO panel is described in detail in the next chapter.

2=Change lib

Use option 2 to prompt the system command CHGLIB, which permits you to change a library type and description.

3=Copy

The copy option prompts the system command CPYLIB, to copy a library.

4=Delete

The delete option will remove the library from your system.

BE AWARE AT ALL TIMES that the options available from the WWL panel are not just Docu-Mint specific. As we have mentioned already, some of the available options are system commands, many of which are very powerful. The delete option is a case in point. Make sure that all your Docu-Mint users are aware of what this actually does: it physically deletes the library from your system, and not just from some internal Docu-Mint file.

5=Display details

Use option 5 to display a detailed breakdown of the objects included in the library, by object type. The panel presented is described in the section **Displaying Library Details** on page 57.

6=Start Lib Anz

Option 6 prompts the Docu-Mint STRLIBANZ command, to analyze a library. In order to analyze a library, you first need to mark it for an appropriate action (i.e. *LOAD or *REMOVE).

For further details please refer to the section **STRLIBANZ Command** on page 238 of the Command Reference section.

7=Rename

Option 7 prompts the system command RNMOBJ (Rename Object), which allows you to change the library name.

8=Mark lib *LOAD

When you select option 8 Docu-Mint prompts the MRKLIB command with a default option of *LOAD. This is the first step required in the analysis process, before starting the actual library analysis with the STRLIBANZ command, or option 6.

For additional details, refer to the section **MRKLIB Command** on page 224 of the Command Reference section.

9=Mark lib *RMV

Option 9 prompts the Docu-Mint command MRKLIB *REMOVE, which can be used as the first step in clearing library information from Docu-Mint. When the command prompt appears, you can select from the remove options *XREF and *ALL, which clear different levels of information from the internal files.

For additional details, refer to the section **MRKLIB Command** on page 224 of the Command Reference section.

10=View/print err

After you have finished analyzing a library, you should always check the analysis errors report, which lists any problems encountered documenting the objects in the selected libraries. The most common analysis error is when Docu-Mint can't find the source for an object. While the software can extract certain types of information from an object itself, for some objects a more complete analysis requires that the source also be documented. So if the source for an object is not found, an analysis error is logged.

The panel presented when you select option 10 allows you to work with the errors encountered, or print a report listing them. From there you can also create alternate source file references which the analysis process can use to locate source members that weren't found on the first pass.

The process of reviewing analysis errors and defining alternate source references is a critical step in achieving the best analysis possible, so you should

take some time to review and understand the steps involved. The panel presented when you select option 10 is described in the section **Working with Analysis Errors** on page 54 of this chapter.

12=Work with obj

Use option 12 to execute the system command WRKOBJ, which presents **Work with Objects Using PDM** screen, limited to the library selected.

14=Chg lib attrs

The Change Library Attributes (CHGLIBATR) command is a Docu-Mint command allowing you to, among other things, assign a library to a library group. For additional details on library groups, refer to the section **Working with Library Groups** on page 58 of this chapter. There are also additional details in the section **CHGLIBATR Command** on page 209 of the Command Reference section.

15=Clr xref files

Docu-Mint file field cross referencing information can be very voluminous, in terms of the size of the database files used to record all this information. If you don't need that level of detail in an analyzed library, you can use option 15 to execute the Docu-Mint command CLRPGMXREF, to clear those records from the internal files.

17=Cmpr pgm info

If you are preparing software for distribution or simply want to make sure that the program objects in your production library have been compiled using the latest source code change or reference the correct file layouts, the compare program information command will be useful to you. This command extracts information about program objects in the library specified. It then compares that information with the values identified on the command parameters and generates a report identifying exceptions to the values specified on the command.

For further details refer to the section **CMPPGMINF Command** on page 213 of the Command Reference chapters.

18=Cmpr dbf refs

When preparing software for distribution or moving programs into production it may be necessary to ensure that each program has been compiled over data base files contained in the production library or libraries. The CMPPGMDBF command will compare the file libraries referenced in a program object with one or more libraries defined in the command. The comparison will highlight any programs that have been compiled using files other than those specified on the command. This command does not require the program object library to be analyzed.

For further details refer to the section **CMPPGMDBF Command** on page 212 of the Command Reference chapters.

20=Rfrsh lib cnt

Use option 20 to update the object count for the selected library. Option 20 executes the Docu-Mint RSHLIBCNT command.

Please refer to page 234 of the command reference section for additional details.

Explanation of WWL Functions

As with the options, you can also customize the functions available from the **Work with System Libraries**. To do so, press F8 from the WWL panel to present the **Work with WWL Options** panel, and from there press F7 to work with the default functions.

Below are descriptions of the functions initially shipped with the software.

F2=Main menu

Press F2 to present the Docu-Mint Main Menu. The Main Menu was the initial screen presented in earlier releases of Docu-Mint. From it you can access all the Docu-Mint commands, and other menus, or return to this screen by pressing F3 again. If you want to set the Main Menu as your initial Docu-Mint screen, you can use the CFGSTRDOC command to do this.

F3=Exit

Press F3 to exit Docu-Mint.

F4=Prompt

Press F4 if you have typed a command on the command line, and wish to prompt it for the parameters.

F5=Refresh

Press F5 to refresh the last library analysis date and time. To refresh library object counts, use the RSHLIBCNT command. To refresh the list of all libraries to reflect added or removed libraries, run the RSHLIBCTL command.

F6=WW lib groups

For additional convenience when documenting sets of libraries, Docu-Mint allows you to organize related libraries into groups. You can use the CHGLIBATR command to add a library to a group, or press F6 to present the **Work with Library Groups** panel. This screen is described on page 82.

F7=RSHLIBCTL

The Refresh Library Control File command updates the list of libraries available to work with at the **Work with System Libraries** screen.

F8=Options config

Press F8 to view and work with the default options and functions available at the WWL screen. Refer to the section **The Work with Used Objects Command** on page 67 below for further information on this feature.

F9=Retrieve

Press F9 to retrieve the last commands executed from the command line at the foot of this panel.

F10=Lib Menu

Press F10 to present the menu DM#LIB, from which you can mark and analyze libraries, and refresh the library count and control files. This menu is also available by selecting option 1 from the **Docu-Mint Main Menu**.

For a detailed description of the menu DM#LIB, please refer to Chapter 5, **Menu DM#LIB: Library Selection and Analysis**.

F12=Cancel

Press F12 to cancel out of Docu-Mint.

F13=Object menu

F13 presents the Object Cross Reference menu DM#OBJ, from which you can select the commonly used Work with Where Used and Work with Used Object commands, in addition to a few others. Most of the options on that menu are also available as options from the **Work with Analyzed Objects** panel.

For a detailed description of the menu DM#OBJ, please refer to Chapter 6, **Menu DM#OBJ: Object Cross Reference**.

F14=WrkSbmJob

Press F14 to execute the WRKSBMJOB command.

F15=Field menu

F15 presents the Field Cross Reference Menu DM#FLD, from which you can run the various field cross reference reports, as well as work with your extended field analyses.

For a detailed description of the menu DM#FLD, please refer to Chapter 7, **Menu DM#FLD: Field Cross Reference**.

F16=Utility menu

The Docu-Mint Utility Menu DM#UTL allows you to run a variety of commands for working with and formatting your source, updating library information and scanning source code.

For a detailed description of the menu DM#UTL, please refer to Chapter 8, **Menu DM#UTL: Docu-Mint Utilities**.

F17=Config menu

The Configuration Menu allows you to work with your library lists and library attributes, and also work with your alternate source file references.

For a detailed description of the menu DM#CFG, please refer to Chapter 9, **Menu DM#CFG: Docu-Mint Configuration**.

F18=Field analysis

Press F18 to present the **Work with Extended Field Analysis** screen. From here you can create explicit rules to locate specific fields or types of fields in your files and programs.

The extended field analysis functions are described in detail in Chapter 11, **Extended Field Analysis Functions**.

F19=Docobj menu

Press F19 to present the Object Documentation Menu DM#ANZ, from which you can document specific objects that you know to have changed on your system.

For a detailed description of the menu DM#ANZ, please refer to Chapter 10, **Menu DM#ANZ: Object Documentation**.

F20=WRKLIBL

The Work with Library Lists command allows you to customize the named library lists that you can use as parameters on a few different Docu-Mint commands, including the STRLIBANZ.

- * -

The next few sections of this chapter describe in more detail a number of the options available from the **Work with System Libraries** panel, beginning with the tools for cleaning up analysis errors. The **Work with Analyzed Objects** screen is addressed in the next chapter.

Working with Analysis Errors

After you mark and analyze a library or set of libraries, the next critical step is to make sure that you didn't have any unexpected analysis errors.

Use option 10 from the **Work with System Libraries** screen to display and work with your analysis errors. Below is an illustration of the panel presented:

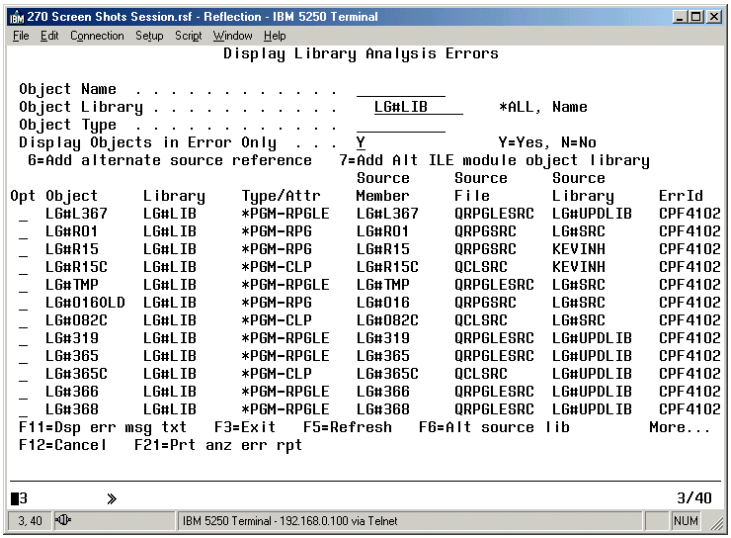
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Library Analysis Errors
Object Name . . . . . _____
Object Library . . . . . LG#LIB *ALL, Name
Object Type . . . . . _____
Display Objects in Error Only . . . Y Y=Yes, N=No
6=Add alternate source reference 7=Add Alt ILE module object library
Opt Object Library Type/Attr Source Member Source File Source Library ErrId
_ LG#L367 LG#LIB *PGM-RPGLE LG#L367 QRPGLESRC LG#UPDLIB CPF4102
_ LG#R01 LG#LIB *PGM-RPG LG#R01 QRPGSRC LG#SRC CPF4102
_ LG#R15 LG#LIB *PGM-RPG LG#R15 QRPGSRC KEVINH CPF4102
_ LG#R15C LG#LIB *PGM-CLP LG#R15C QCLSRC KEVINH CPF4102
_ LG#TMP LG#LIB *PGM-RPGLE LG#TMP QRPGLESRC LG#SRC CPF4102
_ LG#0160LD LG#LIB *PGM-RPG LG#016 QRPGSRC LG#SRC CPF4102
_ LG#082C LG#LIB *PGM-CLP LG#082C QCLSRC LG#SRC CPF4102
_ LG#319 LG#LIB *PGM-RPGLE LG#319 QRPGLESRC LG#UPDLIB CPF4102
_ LG#365 LG#LIB *PGM-RPGLE LG#365 QRPGLESRC LG#UPDLIB CPF4102
_ LG#365C LG#LIB *PGM-CLP LG#365C QCLSRC LG#UPDLIB CPF4102
_ LG#366 LG#LIB *PGM-RPGLE LG#366 QRPGLESRC LG#UPDLIB CPF4102
_ LG#368 LG#LIB *PGM-RPGLE LG#368 QRPGLESRC LG#UPDLIB CPF4102
F11=Dsp err msg txt F3=Exit F5=Refresh F6=Alt source lib More...
F12=Cancel F21=Prt anz err rpt
3 3/40
3, 40 IBM 5250 Terminal - 192.168.0.100 via Telnet NUM

Figure 3-2.

This panel initially displays a list of the errors encountered in analyzing a single library. Type an 'N' for the option 'Display Objects in Error Only' to see a record of all analyzed objects in the library. If you want to review the error message details, press F11 to fold/drop the list. You can also press F21 to print this report.

While there are a variety of errors you can encounter in the process of analyzing a library, the most commonly encountered errors usually stem from having moved an object's source at some point after it was last compiled. Though Docu-Mint can retrieve a fair amount of information from the actual object itself, the analysis process does rely on using the source to get a complete picture of the object usage on your system. If Docu-Mint doesn't find an object's source in the expected location (as determined by a DSPPGM), and there is no relevant alternate source file entry, an analysis error is issued.

In the illustration above, all the errors shown on the first page are CPF4102s, which tell us that the source was not found. In the library we have illustrated above, this is a common problem because it is our practice to create our source in the library LG#SRC during development, but move it into LG#LIB when the

objects go into production. However, it generally isn't our practice to recompile the program once more, after moving the source. So when Docu-Mint looks at the programs in LG#LIB, it expects to find source in LG#SRC, and not in LG#LIB, where the members currently reside.

When you see patterns like this in your analysis error reports, you can address them by creating one or more alternate source reference rules. Docu-Mint then uses these rules during the analysis process, to locate the missing source members. To create an alternate source reference, just select option 6 next to an error that is representative of the problem that you want to address.

Below is an illustration of the window presented when we do this:

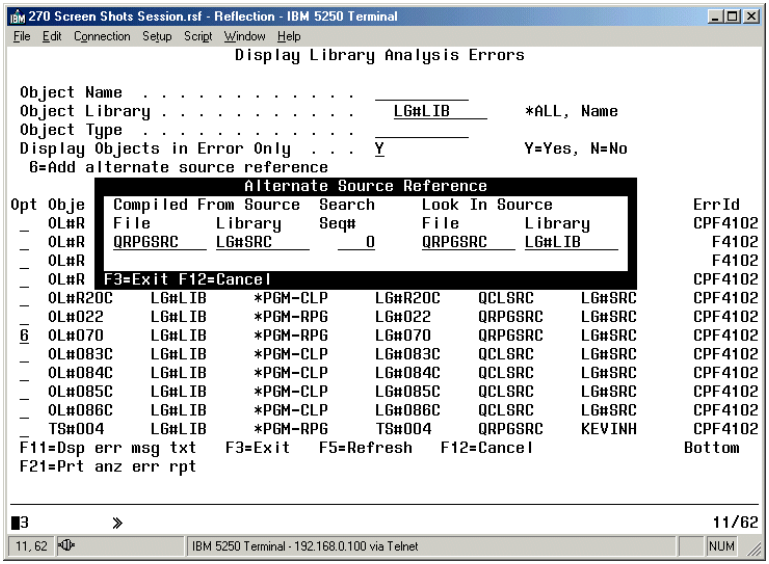
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Library Analysis Errors
Object Name . . . . . _____
Object Library . . . . . LG#LIB *ALL, Name
Object Type . . . . . _____
Display Objects in Error Only . . . Y Y=Yes, N=No
6=Add alternate source reference
Alternate Source Reference
Compiled From Source Search Look In Source
File Library Seq# File Library
QRPGSRC LG#SRC 0 QRPGSRC LG#LIB
F3=Exit F12=Cancel
Opt Obje ErrId
_ OL#R CPF4102
_ OL#R F4102
_ OL#R F4102
_ OL#R CPF4102
_ OL#R20C LG#LIB *PGM-CLP LG#R20C QCLSRC LG#SRC CPF4102
_ OL#022 LG#LIB *PGM-RPG LG#022 QRPGSRC LG#SRC CPF4102
6 OL#070 LG#LIB *PGM-RPG LG#070 QRPGSRC LG#SRC CPF4102
_ OL#083C LG#LIB *PGM-CLP LG#083C QCLSRC LG#SRC CPF4102
_ OL#084C LG#LIB *PGM-CLP LG#084C QCLSRC LG#SRC CPF4102
_ OL#085C LG#LIB *PGM-CLP LG#085C QCLSRC LG#SRC CPF4102
_ OL#086C LG#LIB *PGM-CLP LG#086C QCLSRC LG#SRC CPF4102
_ TS#004 LG#LIB *PGM-RPG TS#004 QRPGSRC KEVINH CPF4102
F11=Dsp err msg txt F3=Exit F5=Refresh F12=Cancel Bottom
F21=Prt anz err rpt
3
11/62
11, 62
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 3-3.

We have selected option 6 part way down our list of objects (there is no particular reason why we selected the entry we did - it's just appears to be similar to several others), and Docu-Mint has presented the Alternate Source Reference window. When the window is first presented, the first four fields are filled in for you. The first two values tell you where the program was compiled from, and you need to fill in the last two: where the source actually exists now. When creating a new rule, we also default the same source file name into the 'Look in Source File' value, but you can change this if that isn't the case.

Alternate source file references and their usage are described in the section **Option 11 – Maintain the Alternate Source Definitions File** on page 138 of Chapter 9.

After you define an alternate source reference, mark and analyze the library once more refresh your results. When the analysis finished, check back at this panel to see if you have succeeded in eliminating all possible errors, and add any other necessary alternate source references.

Adding Alternate ILE Module Object Libs

When program objects are created the may contain bound modules. The modules in fact are the objects that contain all the pertinent information indicating the source file and member and all the other details necessary to perform source code analysis. If the *MODULE objects have been moved to a library other than what is specified in the program object the alternate module library entry will direct the analysis process where to find the module.

You can add alternate ILE module object libs by selecting option 7 from the Display Library Analysis Errors panel (described in the section immediately above), or by selecting 12 from the menu DM#CFG (option 5 from the Docu-Mint Main Menu). Option 7 presents a window allowing you do add a single entry, and option 12 from DM#CFG displays a panel similar to this one:

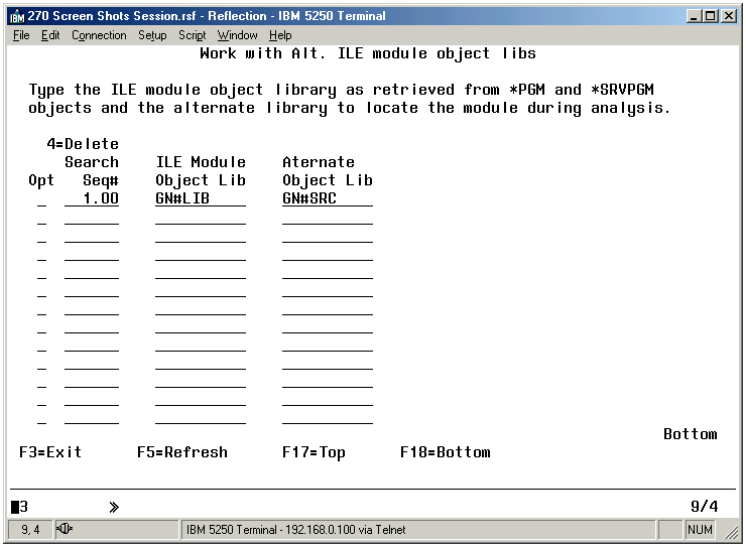

Figure 3-4.

To add new records, type fields values into a new line in the list. To add new empty lines to the bottom of the list, press F18=Bottom.

Search Seq

If you have multiple alternate entries for a library, you can use the sequence to number to determine the order in which alternate libraries are searched.

Generally, you would add the most likely candidates with lower sequence numbers.

ILE Module Object Lib

This is the expected module library, as determined by checking the program.

Alternate Object Lib

Type the name of the actual library where the module resides.

Displaying Library Details

Option 5 from the **Work with System Libraries** panel allows you to see a summary listing of the objects in the selected library, sorted by object type.

Below is an illustration of this panel:

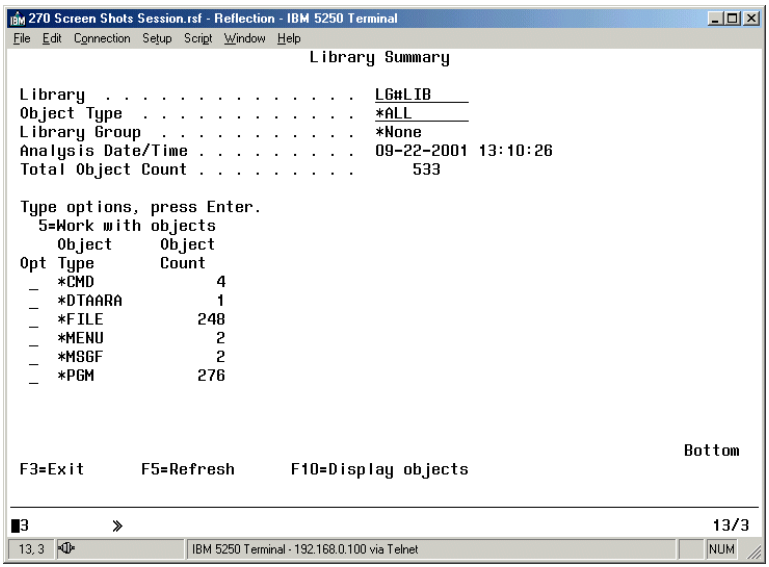
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Library Summary
Library . . . . . LG#LIB
Object Type . . . . . *ALL
Library Group . . . . . *None
Analysis Date/Time 09-22-2001 13:10:26
Total Object Count 533
Type options, press Enter.
5=Work with objects
Object Object
Opt Type Count
*CMD 4
*DTAARA 1
*FILE 248
*MENU 2
*MSGF 2
*PGM 276
Bottom
F3=Exit F5=Refresh F10=Display objects
3
13/3
13, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 3-5.

The illustration above displays a summary of the objects in the library LG#LIB. You can position the list by typing the object type at the top of the screen, or type a new library name to switch to a different library. The headings also display some additional library details, including:

- The group the library belongs to.
- The last time the library was analyzed.
- The total object count.

To work with the details of each type of object, you can select option 5 next to an entry. This will present the PDM Work with... screen appropriate to the entry type selected. For example, option 5 on *CMD entries presents the **Work with Objects Using PDM** screen, with the list constrained to just showing commands.

Working with Library Groups

Docu-Mint supports the ability to group libraries together to simplify the process of analyzing related libraries. There are two ways to group libraries together:

- Using the CHGLIBATR command. When you change library attributes, one of the options available is a group name to assign the library to.
- Using the **Work with Docu-Mint Library Groups** interface.

You can run the CHGLIBATR command at any time from within Docu-Mint, either from a command line or from one of the menus where it as available. The **Work with Library Groups** panel can be presented by pressing F6 from the WWL panel, executing the WRKLIBL command, or selecting it as an option from the DM#CFG menu.

The panel presented is similar to this one:

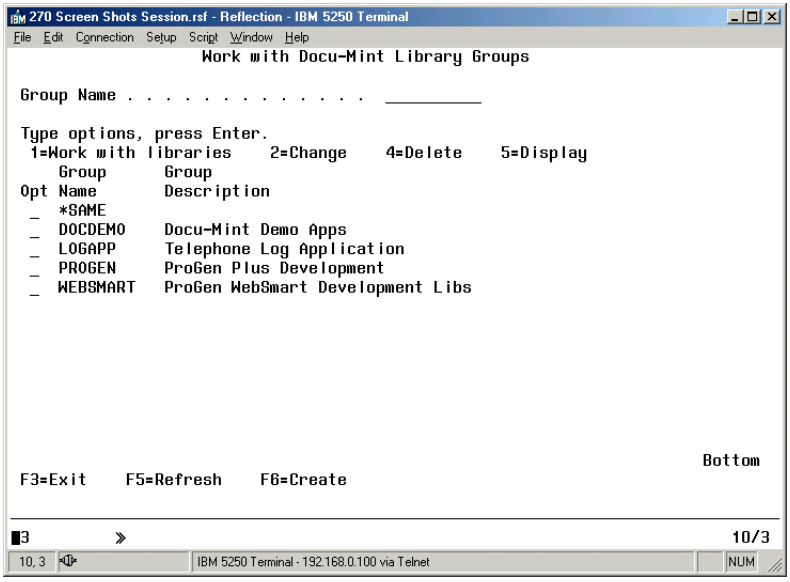
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Docu-Mint Library Groups
Group Name . . . . . _____
Type options, press Enter.
1=Work with libraries 2=Change 4=Delete 5=Display
Group Group
Opt Name Description
_ *SAME
_ DOCDEMO Docu-Mint Demo Apps
_ LOGAPP Telephone Log Application
_ PROGEN ProGen Plus Development
_ WEBSMART ProGen WebSmart Development Libs
Bottom
F3=Exit F5=Refresh F6=Create
3
10/3
10, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 3-6.

Press F6 to add a new entry, or use option 2 to change the name or description of an existing group. To work with the libraries in the group, use option 1. Option 4 allows you delete a group entry.

Creating and Populating New Library Groups

To create a new library list press F6 from the **Work with Library Groups** panel. When you do this, a prompt screen appears where you can enter the group name and description. After you add the entry and return to the list of groups, you can select option 1 to work with the libraries in the group.

After you enter this information, a panel similar to this one appears next:

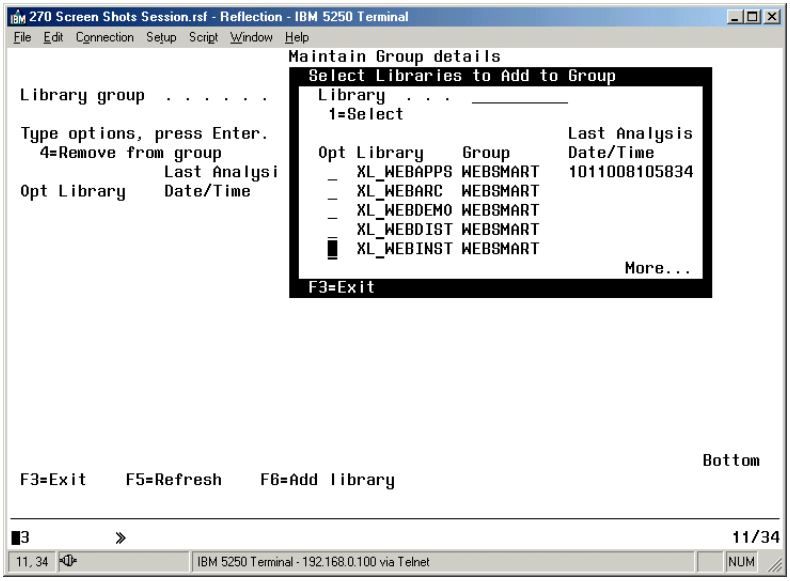

Figure 3-7.

In the panel above (which initially comes up empty) we have pressed F6 add a library (or libraries) to the group. When you press F6, the window shown here in the upper right is presented, which lists the libraries on your system. You can use the position-to field at the top of the list to go to a specific library, or use the roll keys to page through the entries. Use option 1 to select the library or libraries you want to include in the group. When you press Enter after selecting all the libraries you need, these are displayed in the main body of the panel.

Use option 4 to remove a library from the group.

When you work with library groups and group entries, remember that the command CHGLIBATR may also be used to add entries to a group.

CHAPTER 4

Working with Analyzed Objects

After you have analyzed a library and reviewed the analysis report to make sure your results are as complete as possible, you can select option 1 from the **Work with System Libraries** panel to present a list of the objects in that library.

When you do this, the **Work with Analyzed Objects** panel is presented, shown below:

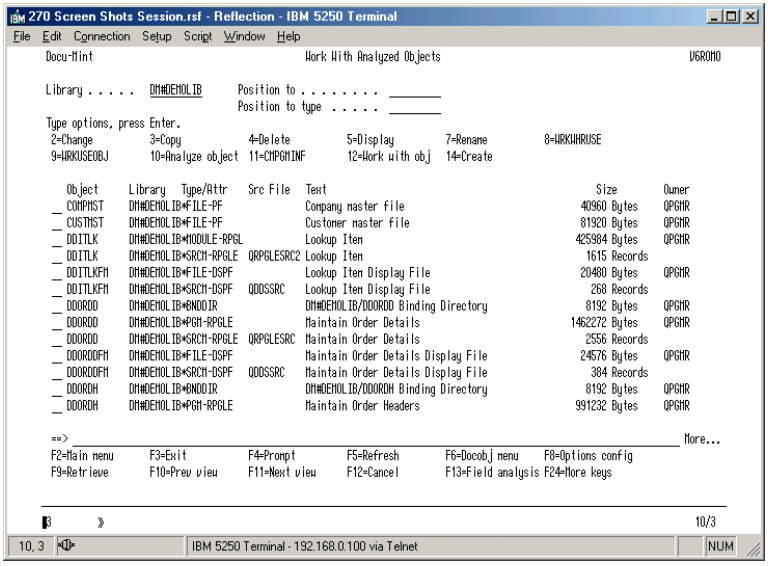
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Work With Analyzed Objects V6R0M0
Library . . . . . DM#DEM0LIB Position to . . . . . .
Position to type . . . . .
Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display 7=Rename 8=WRKWHRUSE
9=WRKUSEOBJ 10=Analyze object 11=CMPGMINF 12=Work with obj 14=Create
Object Library Type/Attr Src File Text Size Owner
_ COMPMST DM#DEM0LIB *FILE-PF Company master file 40960 Bytes QPGMR
_ CUSTMST DM#DEM0LIB *FILE-PF Customer master file 81920 Bytes QPGMR
_ DDITLK DM#DEM0LIB *MODULE-RPGL Lookup Item 425984 Bytes QPGMR
_ DDITLK DM#DEM0LIB *SRCM-RPGLE QRPGLESRC2 Lookup Item 1615 Records
_ DDITLKFM DM#DEM0LIB *FILE-DSPF Lookup Item Display File 20480 Bytes QPGMR
_ DDITLKFM DM#DEM0LIB *SRCM-DSPF QDDSSRC Lookup Item Display File 268 Records
_ DDORDD DM#DEM0LIB *BNDDIR DM#DEM0LIB/DDORDD Binding Directory 8192 Bytes QPGMR
_ DDORDD DM#DEM0LIB *PGM-RPGLE Maintain Order Details 1462272 Bytes QPGMR
_ DDORDD DM#DEM0LIB *SRCM-RPGLE QRPGLESRC Maintain Order Details 2556 Records
_ DDORDDFM DM#DEM0LIB *FILE-DSPF Maintain Order Details Display File 24576 Bytes QPGMR
_ DDORDDFM DM#DEM0LIB *SRCM-DSPF QDDSSRC Maintain Order Details Display File 384 Records
_ DDORDH DM#DEM0LIB *BNDDIR DM#DEM0LIB/DDORDH Binding Directory 8192 Bytes QPGMR
_ DDORDH DM#DEM0LIB *PGM-RPGLE Maintain Order Headers 991232 Bytes QPGMR
==> More...
F2=Main menu F3=Exit F4=Prompt F5=Refresh F6=Docobj menu F8=Options config
F9=Retrieve F10=Prev view F11=Next view F12=Cancel F13=Field analysis F24=More keys
10/3
10, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-1.

This panel includes an alphabetical list of all objects and source members included in the selected library. To position the list to a specific entry, type the object name in the prompt. To position the list to the objects of a specific type, enter the desired type in the second prompt at the top of the screen. You can

also press F10 and F11 to toggle between several different views with different sets of details on the objects shown above.

From the list above you can type a new library name (in the upper left) to switch to seeing objects in a different lib, or you can also type the special value *ALL to see a record of all objects that Docu-Mint has analyzed, in all libraries.

Below is a description of the information available on the WWO panel, in all the different views, followed by explanations of all the options and functions available for working with your object lists.

Object Information Available at the WWO Panel

Some of the object details below require that in order to see them you press F10 or F11 to toggle the panel view.

Object/Library
The object name and library.

Type/Attr
This column displays a composite of the object type, and any additional attributes that are relevant. For example, if the object is of type *PGM, the additional attributes will show whether it's a CL, RPG or RPGLE program. If the object is of type *FILE, the attribute extension shows whether it is a physical, logical or source file, etc.

Src File
The **Work with Analyzed Objects** screen shows source members in addition to actual objects. This column lists the source file in which the source member is found.

Text
The object or source member text description.

Size
The size, in bytes for objects and records for source, of the entry.

Owner
This is the object owner.

Object Source Section
This additional set of information includes more details for the object source, including the source file and library names, and the source member. Finally, the last changed date and time is also shown.

Cross Reference Load History

These columns display details related to when the cross reference information was first and last updated. A non-blank value in the ErrId column indicates that an error was encountered during the previous analysis of the object.

Create, Save and Change Date/Time

These columns display the date and time that the object was last created, saved or modified.

Explanation of WWO Options

Many of the options below are customized to behave appropriately to the type of object they are selected against. For example, the display option will execute the DSPDTAARA command if you select it next to a data area, and the DSPPGM command if you select a program. To work with, or add to, the defaults included with Docu-Mint, you can press F8=Options config from the WWO screen, and select option 2 next to each option.

The section **The Work with Used Objects Command** on page 67 below describes the options configuration screens.

2=Change

As mentioned above, the action executed by the change option can be customized from the options configuration screen (F8) to vary what it does depending on the object type selected. For example, the default action executed when option 2=Change is selected for a program object is:

```
STRSEU SRCFILE(&srclib/&f) SRCMBR(&srcmbr) OPTION(2)
```

Refer to the Options Configuration section for additional details on how to customize your options, and the replacement values supported.

3=Copy

Use option 3 to copy an existing object. You can customize the command string executed by the copy option depending on the object type selected. The default command string is:

```
? CRTDUPOBJ ?*OBJ(&n) ?*FROMLIB(&l) ?*OBJTYPE(&t) ??
```

So when you select option 3, the CRTDUPOBJ command is prompted, defaulting in as many command parms as are relevant.

4=Delete

Option 4 physically deletes an object on your system. When you do this, Docu-Mint will change the object description information to reflect that the object is no longer found on the system. To remove the record entirely, you need to

mark the library *REMOVE *ALL, analyze, then mark it *LOAD and analyze again.

5=Display

Select option 5 to display object information. Like the change and copy options, you can configure the display option to be sensitive to the object type in what it executes.

7=Rename

Use option 7 to invoke the Rename Object command (RNMOBJ), or the appropriate rename command to the object type selected. For example, the Rename Member (RNMM) command is used when you select a source member.

8=WRKWHRUSE

Option 8 prompts the Work with Where Used command, for the selected object. This frequently used option is described in the section **The Work with Where Used Command** on page 74 of this chapter, as well as in the Command Reference section.

9=WRKUSEOBJ

Option 9 prompts the Work with Used Objects command, to display a list of objects used by the one selected. This option is described in detail in the section **The Work with Used Objects Command** on page 67, later in this chapter, as well as in the Command Reference section.

10=Analyze object

Besides the standard cycle for analyzing libraries using the MRKLIB and STRLIBANZ commands, Docu-Mint also supports the ability to individually select and document particular objects in a library. Use option 10 to do this. There are many different DOCOBJ commands included in the software, including DOCPGM, DOCFILE, and so on. When you execute this option, Docu-Mint prompts the DOCxxx command appropriate to the type of the object you selected.

11=CMPPGMINF

The Compare Program Information command is useful if you are preparing software for distribution or simply want to make sure that the program objects in your production library have been compiled using the latest source code change or reference the correct file layouts. This command extracts information about a program object and then compares that information with the values identified on the command parameters. Then it generates a report identifying exceptions to the values specified on the command.

12=Work with obj

Select option 12 to present the PDM Work with... screen that is appropriate to the object type selected. For example, for program objects the Work with Objects panel is presented, while for files, the Work with Files. As with the other options, this can be configured from the Options Configuration panel (F8).

14=Create

The Create options prompts the system CRTxxx command that is appropriate to the object type selected. This can also be configured from the **Options Configuration** screen.

Explanation of WWO Functions

Below are descriptions of the default functions available from the **WWO** panel.

F2=Main Menu

Press F2 to present the **Docu-Mint Main Menu**. The Main Menu was the initial screen presented in earlier releases of Docu-Mint. From it you can access all the Docu-Mint commands and other menus.

F3=Exit

Press F3 to exit back to the previous panel.

F4=Prompt

F4 is a command line prompt key. To use it, type a command on the command line and press F4.

F5=Refresh

Press F5 to refresh any changes made to the objects list.

F6=Docobj menu

From the **Object Documentation Menu** you can access the commands to document individual objects. Available commands include DOCOBJ, DOCCMD, etc.

F8=Options config

F8 takes you to the options configuration screens. These are described in the section **The Work with Used Objects Command** on page 67 below.

F9=Retrieve

Press F9 to retrieve the previously executed commands.

F10/F11=Prev/Next view

Use these function keys to toggle through the different views of your object.

F12=Cancel

Press F12 to return to the previous screen.

F13=Field analysis

F13 presents the **Work with Extended Field Analysis** panel. From here you can define analysis rules designed to find references to specific fields, or types of fields, in your files and programs.

F14=WrkSbmJob

Press F14 to run the WRKSBMBJOB command.

F15=View/Print Err

Press F15 to work with the Analysis Error results for this library.

The Work with Used Objects Command

The frequently used Work with Used Objects option provides you with a list interface to the objects used by commands, menus, procedures, programs, modules, service programs, queries and user profiles on your system.

Work with Used Objects (WUO) allows you to work with lists representing the flow of work on your system. From these lists you can perform operations such as copy, delete, edit and rename.

Below is an illustration of the options presented when you select Work with Used Objects command from the **Work with Analyzed Objects** panel:

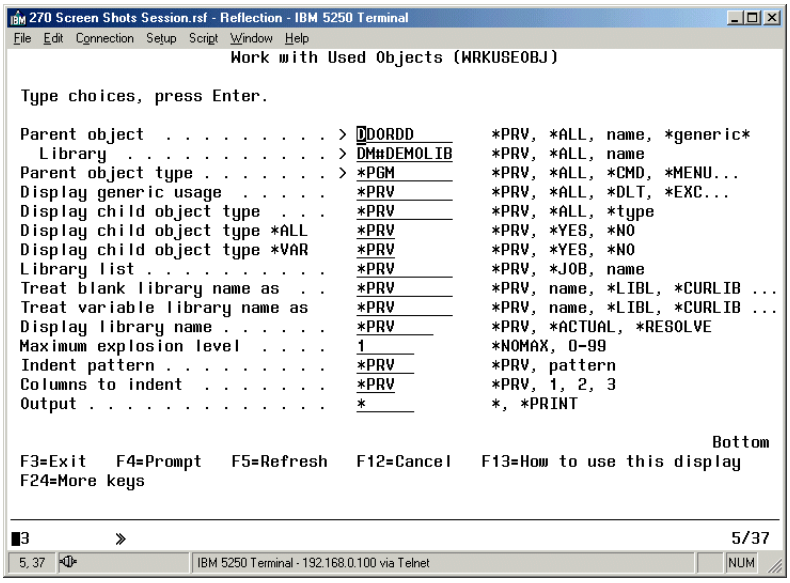
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Used Objects (WRKUSEOBJ)
Type choices, press Enter.
Parent object . . . . . > DORDD *PRV, *ALL, name, *generic*
Library . . . . . > DM#DEMOLIB *PRV, *ALL, name
Parent object type . . . . . > *PGM *PRV, *ALL, *CMD, *MENU...
Display generic usage . . . . . *PRV *PRV, *ALL, *DLT, *EXC...
Display child object type . . . *PRV *PRV, *ALL, *type
Display child object type *ALL *PRV *PRV, *YES, *NO
Display child object type *VAR *PRV *PRV, *YES, *NO
Library list . . . . . *PRV *PRV, *JOB, name
Treat blank library name as . . *PRV *PRV, name, *LIBL, *CURLIB ...
Treat variable library name as *PRV *PRV, name, *LIBL, *CURLIB ...
Display library name . . . . . *PRV *PRV, *ACTUAL, *RESOLVE
Maximum explosion level . . . . 1 *NOMAX, 0-99
Indent pattern . . . . . *PRV *PRV, pattern
Columns to indent . . . . . *PRV *PRV, 1, 2, 3
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
3
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-2.

When you select this option from the **Work with Analyzed Objects** panel, the parent object name, library and type are filled in for you. All the remaining parameters except the Maximum explosion level and the Output default to *PRV, indicating that command will use the parameter values from the last time it was executed.

For a detailed description of all the command parameters, please refer to the section **WRKUSEOBJ or WUO Command** on page 243 of Chapter 13, **Docu-Mint Command Reference**.

Using the Work with Used Objects Display

Below is a sample of the output for WUO object command, when run over the program GN#G01 in GN#LIB, with a maximum explosion level of 3:

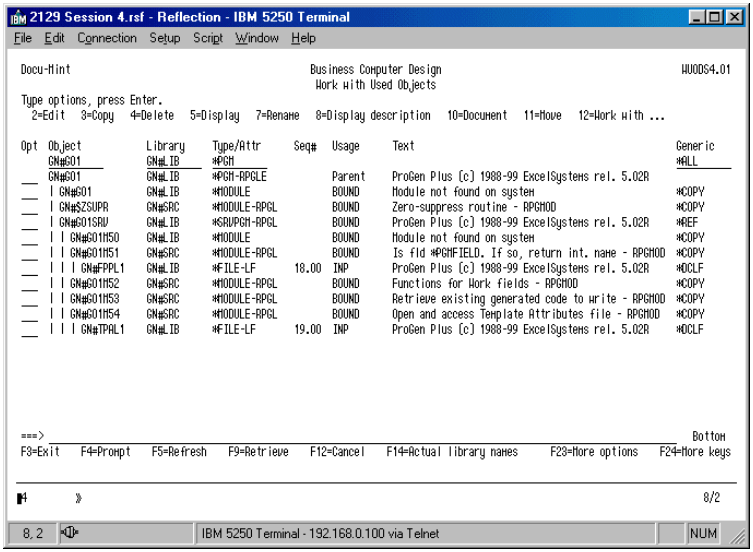
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Business Computer Design
Work with Used Objects
WUODS4.01
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display description 10=Document 11=Move 12=Work with ...
Opt Object Library Type/Attr Seq# Usage Text Generic
GN#G01 GN#LIB *PGM *ALL
GN#G01 GN#LIB *PGM-RPGLE Parent ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R
| GN#S01 GN#LIB *MODULE BOUND Module not found on system *COPY
| GN#$ZSUPR GN#SRC *MODULE-RPGL BOUND Zero-suppress routine - RPGMOD *COPY
| GN#G01SRU GN#LIB *SRUPGM-RPGL BOUND ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *REF
| | GN#G01M50 GN#LIB *MODULE BOUND Module not found on system *COPY
| | GN#G01M51 GN#SRC *MODULE-RPGL BOUND Is fld *PGMFIELD. If so, return int. name - RPGMOD *COPY
| | | GN#FPPL1 GN#LIB *FILE-LF 18.00 INP ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *OCLF
| | GN#G01M52 GN#SRC *MODULE-RPGL BOUND Functions for Work fields - RPGMOD *COPY
| | GN#G01M53 GN#SRC *MODULE-RPGL BOUND Retrieve existing generated code to write - RPGMOD *COPY
| | GN#G01M54 GN#SRC *MODULE-RPGL BOUND Open and access Template Attributes file - RPGMOD *COPY
| | | GN#TPAL1 GN#LIB *FILE-LF 19.00 INP ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *OCLF
===>
Bottom
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F12=Cancel F14=Actual library names F23=More options F24=More keys
8/2
8, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-3.

Object

This field can be used to change the parent object name. After changing this value and pressing Enter, the WUO list display is rebuilt based on the new selection criteria.

The list portion of this column displays the object name. If the object name is not indented, the object displayed represents a parent object and appears in the list because it matches the Object, Library and Type/Attr criteria you requested. All parent objects are further identified by a Usage value of 'Parent'. Conversely, an indented object name indicates a child object that is used by the executable object higher in the list. Since only 6 spaces are allocated to indent an object name, all levels beyond this limit will display a number to the left of the object name indicating the indent level the object resides at.

Library

Use this field to change the parent object library name.

The list portion displays the object library. The library name value displayed is dependent upon the value of the Display library name parameter. Press F14 (Actual/Resolved library names) to toggle between showing the actual library

name from Docu-Mint's cross reference data base and the resolved library name.

Type/Attr

Use this field to change the parent object type.

The list portion displays the type of object, such as *DTAARA, *FILE, *PGM, etc. The attribute of the object (such as CLP, LF, PF, RPG) is appended to the type if applicable.

Seq#

This represents the source sequence number of the program or procedure at which the object is used, or the menu option number that initiates execution of the object.

Usage

This column indicates how the object is used. Normally, object usage is described by the name of the command or procedure operating on a given object. For an explanation of the special object usage descriptions defined by Docu-Mint, refer to **Docu-Mint Terminology** on page 23.

Text

This is a description of the object. Note that the Generic input field (see next) appears below this heading on 80 character displays.

Generic

You can use this field to change the generic usage subset criteria. Due to space limitations, this input field appears below the Text heading on 80 character displays.

In the list portion of the screen, this column displays the generic usage value for the object. Due to space limitations, this field does not appear on 80 character displays.

Function Keys

F14=Actual/Resolved library names

Press F14 to toggle the display between showing the actual library names from the object cross reference file or the resolved library names as determined by Docu-Mint. Pressing F14 is equivalent to flipping the Display library name parameter from *ACTUAL to *RESOLVE or vice-versa.

F16=Position to

Toggles between positioning the display to the top of the list and the bottom of the list.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See **Using the Subset Work with Used Objects Display** below for further information.

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

F21=Print list

Prints the current form of the list.

Options

10=Document

Use option 10 to execute the DOCOBJ command for any entry in a used objects listing. This command is useful for refreshing changed information in already analyzed libraries, or when the listing includes an object that itself has not been previously analyzed.

The remaining options are similar to those available from PDM.

Using the Subset Work with Used Objects Display

Press F17 from the WUO panel or the **Change Session Defaults** panel to display the **Subset Work with Used Objects** panel. From here you can make changes to the parameters which control the amount of information appearing in the main used objects list. After making any changes and pressing Enter, the list is rebuilt based on the new selection criteria. Each prompt on the **Subset Work with Used Objects** display corresponds to a parameter of the WRKUSEOBJ command.

Below is an illustration of the **Subset Work with Used Objects** panel:

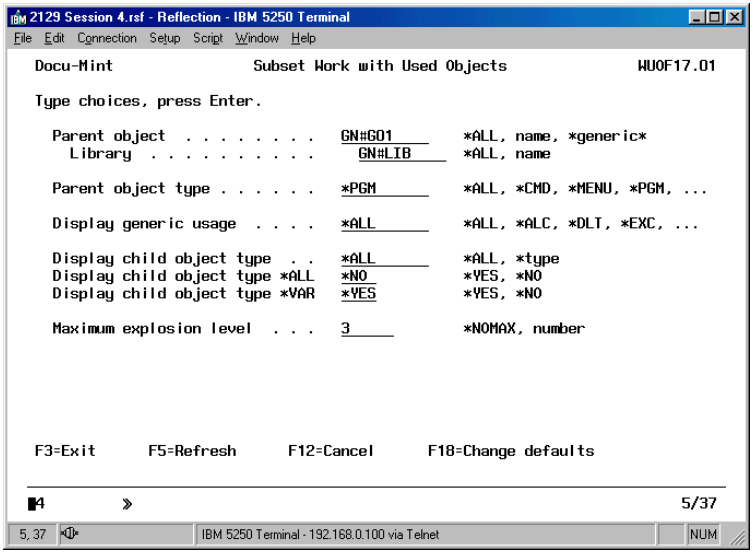
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Subset Work with Used Objects WUOF17.01
Type choices, press Enter.
Parent object . . . . . GN#GO1 *ALL, name, *generic*
Library . . . . . GN#LIB *ALL, name
Parent object type . . . . . *PGM *ALL, *CMD, *MENU, *PGM, ...
Display generic usage . . . . *ALL *ALL, *ALC, *DLT, *EXC, ...
Display child object type . . *ALL *ALL, *type
Display child object type *ALL *NO *YES, *NO
Display child object type *VAR *YES *YES, *NO
Maximum explosion level . . . 3 *NOMAX, number
F3=Exit F5=Refresh F12=Cancel F18=Change defaults
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-4.

The command parameters shown above represent a subset of those available when you initially run the WRKUSEOBJ command, and are described in detail in Section V, **Docu-Mint Command Reference**.

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

Using the Change Session Defaults Display

The **Change Session Defaults** display allows you to change the parameters controlling the appearance of the information in the main Used Objects list. With the exception of 'Screen size', each prompt on the **Change Session Defaults** display corresponds to a parameter of the WRKUSEOBJ command. These are described in detail in Section V, **Docu-Mint Command Reference**, under the WRKUSEOBJ command entry.

The **Change Session Defaults** display may be reached by pressing F18 from either the main used objects list or the **Subset Work with Used Objects** display.

Below is an illustration of this panel:

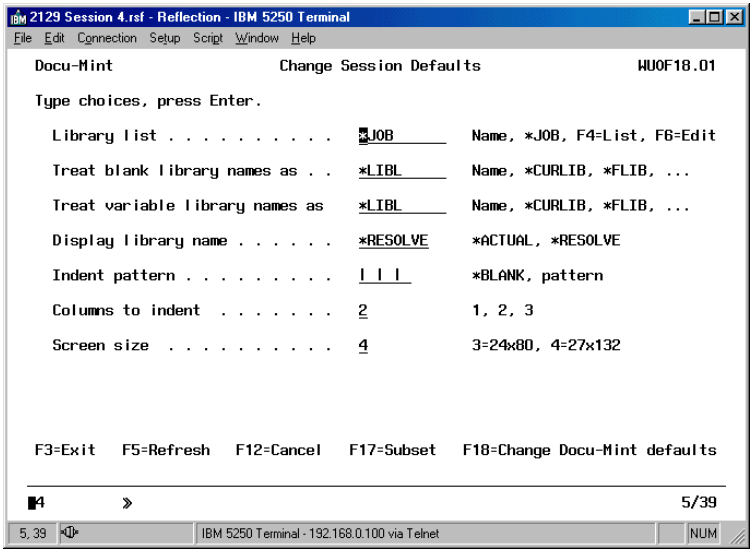
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Change Session Defaults WUOF18.01
Type choices, press Enter.
Library list . . . . . *JOB Name, *JOB, F4=List, F6=Edit
Treat blank library names as . . *LIBL Name, *CURLIB, *FLIB, ...
Treat variable library names as *LIBL Name, *CURLIB, *FLIB, ...
Display library name . . . . . *RESOLVE *ACTUAL, *RESOLVE
Indent pattern . . . . . | | | *BLANK, pattern
Columns to indent 2 1, 2, 3
Screen size . . . . . 4 3=24x80, 4=27x132
F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Change Docu-Mint defaults
4 5/39
5, 39
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-5.

Explanation of Panel

If any of the first three values are changed (Library list, Treat blank library names as... and Treat variable library names as...) the list is rebuilt.

The next three prompts (Display library name, Indent pattern and Columns to indent) will change the appearance of the information appearing in the list without rebuilding the list.

The final prompt (Screen size) appears only if the workstation you are using is capable of supporting a 27 by 132 character display. Type 3 to select a 24 by 80 screen size, 4 to select a 27 by 132 screen size. Changing the screen size does not cause the list to be rebuilt.

F4=List

F4 presents a display that allows you to select a named library list from a list of predefined library lists. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F6=Edit

F6 presents a display that allows you to modify the library list used by WUO when resolving object libraries. A value of *USRDFN (User defined) denotes a unique combination of libraries not represented by a named library list. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See the previous section of this chapter for a description of how to use the panel presented.

F18=Change Docu-Mint defaults

Presents a display which allows you to select the default values for certain operations in Docu-Mint. For additional information on the changing Docu-Mint defaults, refer to **Docu-Mint Terminology** on page 23.

The Work with Where Used Command

This is another option you will commonly execute from the **Work with Analyzed Objects** panel. The Work with Where Used (WWU) option allows you to present a list interface for locating where objects are used on your system. From this list you can perform operations such as copy, delete, edit and rename.

When you select the Work with Where Used option, the panel below is presented:

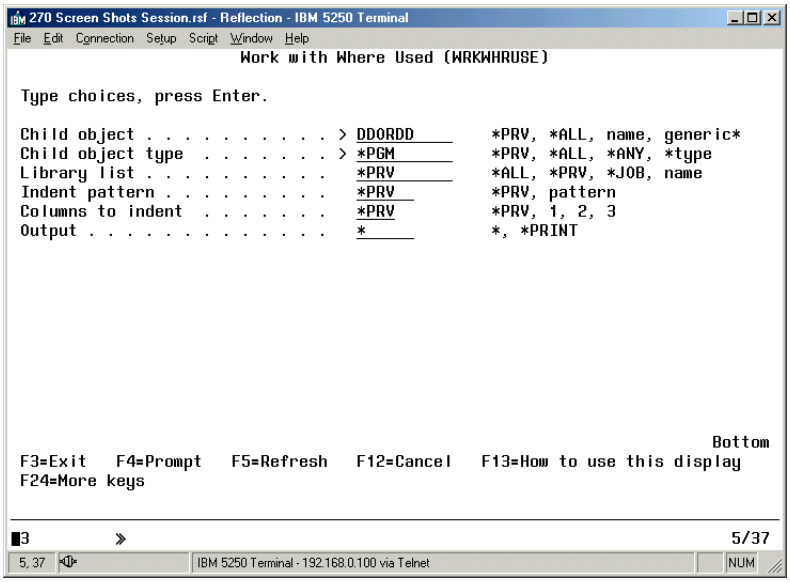
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Where Used (WRKWHRUSE)
Type choices, press Enter.
Child object . . . . . > DDORDD *PRV, *ALL, name, generic*
Child object type . . . . . > *PGM *PRV, *ALL, *ANY, *type
Library list . . . . . *PRV *ALL, *PRV, *JOB, name
Indent pattern . . . . . *PRV *PRV, pattern
Columns to indent . . . . . *PRV *PRV, 1, 2, 3
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
3
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-6.

The only required command parameters are the child object and object type. For a complete description of all the command parameters, please refer to the section **WRKWHRUSE or WWU Command** on page 247 of Section V, **Docu-Mint Command Reference**.

The next section describes how to work with the WWU output.

Using the Work with Where Used Display

This section describes the various elements of the Work with Where Used list display. Below is a sample of the output when running the WWU command over the program GN#HLP:

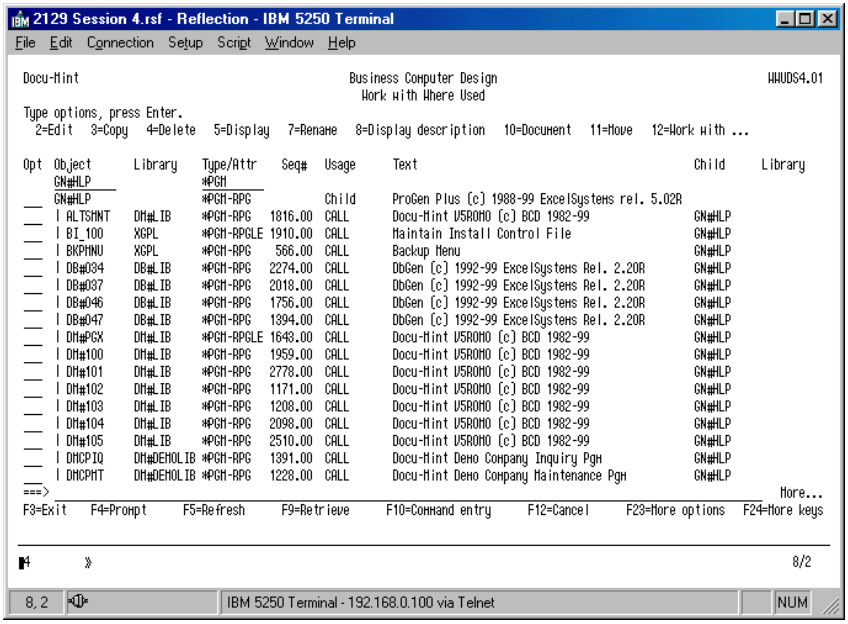
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Business Computer Design
Work with Where Used
WWUDS4.01
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display description 10=Document 11=Move 12=Work with ...
Opt Object Library Type/Attr Seq# Usage Text Child Library
GN#HLP *PGM
GN#HLP *PGM-RPG Child ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R
| ALTSMNT DM#LIB *PGM-RPG 1816.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| BI_100 XGPL *PGM-RPGLE 1910.00 CALL Maintain Install Control File GN#HLP
| BKPMNU XGPL *PGM-RPG 566.00 CALL Backup Menu GN#HLP
| DB#034 DB#LIB *PGM-RPG 2274.00 CALL DbGen (c) 1992-99 ExcelSystems Rel. 2.20R GN#HLP
| DB#037 DB#LIB *PGM-RPG 2018.00 CALL DbGen (c) 1992-99 ExcelSystems Rel. 2.20R GN#HLP
| DB#046 DB#LIB *PGM-RPG 1756.00 CALL DbGen (c) 1992-99 ExcelSystems Rel. 2.20R GN#HLP
| DB#047 DB#LIB *PGM-RPG 1394.00 CALL DbGen (c) 1992-99 ExcelSystems Rel. 2.20R GN#HLP
| DM#PGX DM#LIB *PGM-RPGLE 1643.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DM#100 DM#LIB *PGM-RPG 1959.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DM#101 DM#LIB *PGM-RPG 2778.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DM#102 DM#LIB *PGM-RPG 1171.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DM#103 DM#LIB *PGM-RPG 1208.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DM#104 DM#LIB *PGM-RPG 2098.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DM#105 DM#LIB *PGM-RPG 2510.00 CALL Docu-Mint V5ROM0 (c) BCD 1982-99 GN#HLP
| DMCPIQ DM#DEMOLIB *PGM-RPG 1391.00 CALL Docu-Mint Demo Company Inquiry Pgm GN#HLP
| DMCPMT DM#DEMOLIB *PGM-RPG 1228.00 CALL Docu-Mint Demo Company Maintenance Pgm GN#HLP
===>
More...
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Command entry F12=Cancel F23=More options F24=More keys
8/2
8, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-7.

Object

You can use the object field to change the child object name. After changing this value and pressing Enter, the WWU list display will be rebuilt based on the new selection criteria.

The list portion of this column displays the name of the object using the selected child object. If the object name is not indented, it is the child object selected. Conversely, an indented object name indicates a parent object that uses the given child.

This command does not support multiple nesting levels for displaying the data, as the output would likely be too unwieldy to work with and hierarchies unclear.

However, you *can* type WWU next to any item in the list above to drill down on a particular entry.

Library
The library in which the object resides. This value is blank for all child objects.

Type/Attr
Use this field to change the child object type. After changing this and pressing Enter, the WWU list display will be rebuilt based on the new selection criteria.

The list portion of this column displays the object type, such as *DTAARA, *FILE, *PGM, etc. The attribute of the object, such as CLP or RPG, is appended to the type when possible.

Seq#
The source sequence number of the parent object at which the child is used.

Usage
How the child object is used. Normally, object usage is described by the name of the command or procedure operating on a given object. For an explanation of the special object usage descriptions defined by Docu-Mint, refer to object usage abbreviations in **Docu-Mint Terminology** on page 23.

Text
A description of the object.

Child
Displays the name of the child used in this particular reference. Usually the child shown here is the same as the non-indented child previously shown in the list. A child name in this column that differs from the previous child name in the Object column indicates this Child is a logical file built over the physical file child shown in the Object column.

Library
Displays the library name of the child used in this particular reference.

Function Keys
F16=Position to
Toggles between positioning the display between the top and bottom of the list.

F17=Subset
Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See **Using the Subset Work with Where Used Display** below for further information.

F18=Change defaults
Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

F21=Print list

Prints the current form of the list.

Using the Subset Work with Where Used Display

The **Subset Work with Where Used** display allows you to make changes to the parameters which control the amount of information appearing in the main where used list. After making any changes and pressing Enter, the list is rebuilt based on the new selection criteria. Each prompt on the **Subset Work with Where Used** display corresponds to a parameter of the WRKWHRUSE command.

The **Subset Work with Where Used** display can be reached by pressing F17 from either the main Where Used list or the **Change Session Defaults** display. Below is an illustration of the panel presented:

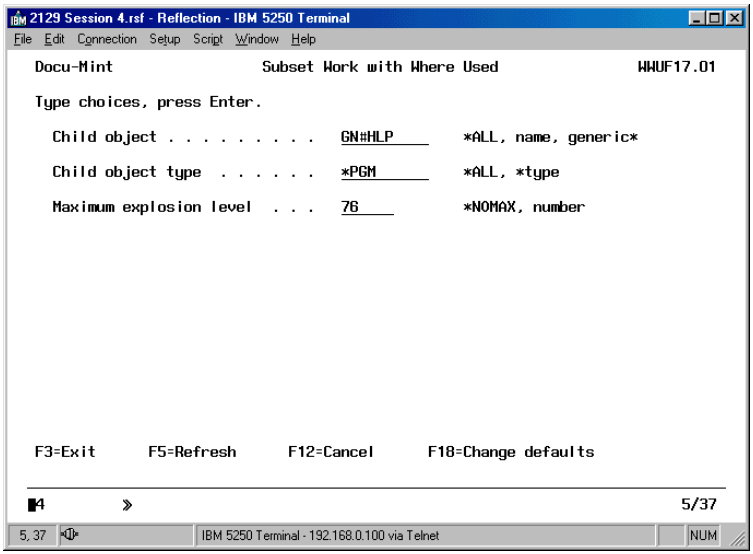
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Subset Work with Where Used WWUF17.01
Type choices, press Enter.
Child object . . . . . GN#HLP *ALL, name, generic*
Child object type . . . . . *PGM *ALL, *type
Maximum explosion level . . . 76 *NOMAX, number
F3=Exit F5=Refresh F12=Cancel F18=Change defaults
4
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-8.

The default values are those selected the last time the command was executed.

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

Using the Change Session Defaults Display

The **Change Session Defaults** panel allows you to make changes to the parameters which control the appearance of the information appearing in the main 'where used' list. With the exception of the Screen size, each prompt on the **Change Session Defaults** display corresponds to a parameter of the WRKWHRUSE command. For a complete description of the WWU command parameters, please refer to **Docu-Mint Terminology** on page 23.

This is the **Change Session Defaults** panel for the WWU command:

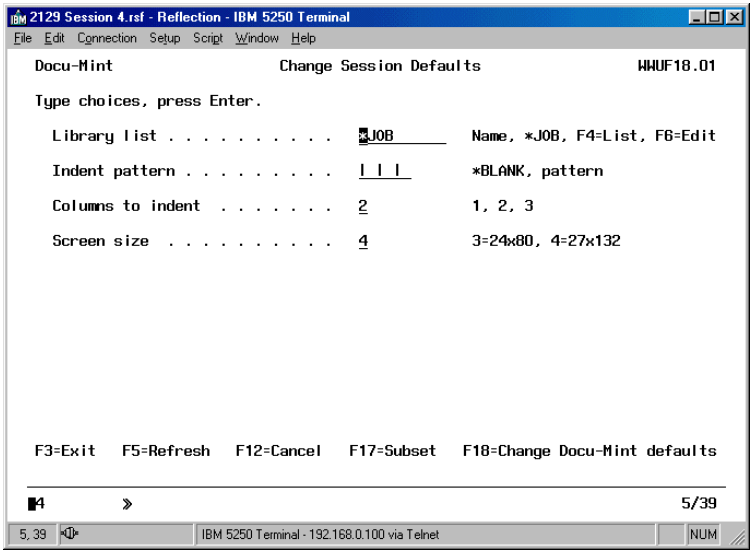
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Change Session Defaults
WWUF18.01
Type choices, press Enter.
Library list . . . . . *JOB
Name, *JOB, F4=List, F6=Edit
Indent pattern . . . . . | | |
*BLANK, pattern
Columns to indent 2
1, 2, 3
Screen size 4
3=24x80, 4=27x132
F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Change Docu-Mint defaults
4
5/39
5, 39
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-9.

Explanation of Panel

The Library list prompt causes the list to be rebuilt if the value is changed.

The next two prompts ('Indent pattern' and 'Columns to indent') change the appearance of the information appearing in the list without rebuilding the list.

The final prompt (Screen size) appears only if the workstation you are using is capable of supporting a 27 by 132 character display. Type 3 to select a 24 by 80 screen size, 4 to select a 27 by 132 screen size. Changing the screen size does not cause the list to be rebuilt.

The Change Session Defaults display may be reached by pressing F18 from either the main Used Objects list or the Subset Work with Where Used display.

Function Keys

F4=List

Presents a display that allows you to select a named library list from a list of predefined library lists. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F5=Refresh

Changes the prompts back to their original values and redisplays the screen.

F6=Edit

Presents a display that allows you to modify the library list used by WWU when resolving object libraries. A value of *USRDFN (User defined) denotes a unique combination of libraries not represented by a named library list. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See **Using the Subset Work with Where Used Display** above for further information.

F18=Change Docu-Mint defaults

Presents a display which allows you to select the default values for certain operations in Docu-Mint. For additional information on the changing Docu-Mint defaults, refer to **Docu-Mint Terminology** on page 23.

Customizing the WWL and WWO Options

Docu-Mint allows you to customize the options and function keys at both the **Work with System Libraries** and **Work with Analyzed Objects** screen. To do this, press F8 from either of these panels. In both cases, the panel presented is similar to this one:

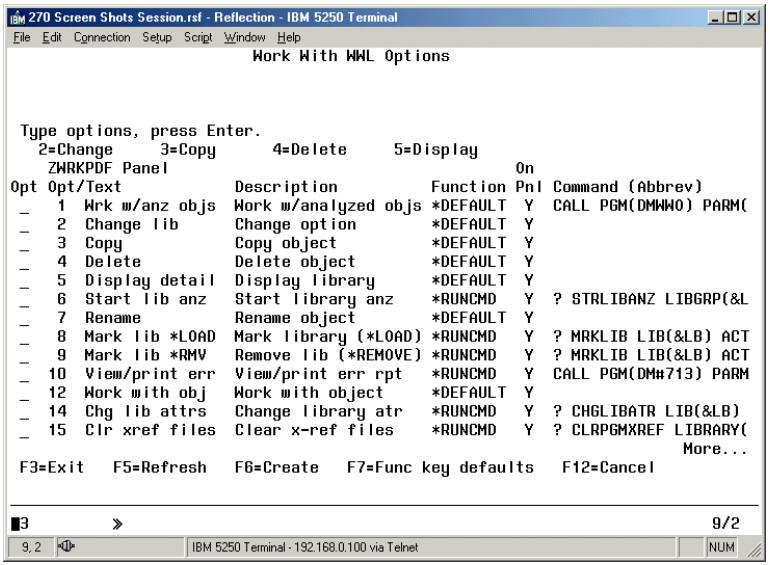
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With WWL Options
Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display
ZWRKPDF Panel
Opt Opt/Text Description Function On Pnl Command (Abbrev)
_ 1 Wrk w/anz objs Work w/analyzed objs *DEFAULT Y CALL PGM(DMWWO) PARM(
_ 2 Change lib Change option *DEFAULT Y
_ 3 Copy Copy object *DEFAULT Y
_ 4 Delete Delete object *DEFAULT Y
_ 5 Display detail Display library *DEFAULT Y
_ 6 Start lib anz Start library anz *RUNCMD Y ? STRLIBANZ LIBGRP(&L
_ 7 Rename Rename object *DEFAULT Y
_ 8 Mark lib *LOAD Mark library (*LOAD) *RUNCMD Y ? MRKLIB LIB(&LB) ACT
_ 9 Mark lib *RMV Remove lib (*REMOVE) *RUNCMD Y ? MRKLIB LIB(&LB) ACT
_ 10 View/print err View/print err rpt *RUNCMD Y CALL PGM(DM#713) PARM
_ 12 Work with obj Work with object *DEFAULT Y
_ 14 Chg lib attrs Change library atr *RUNCMD Y ? CHGLIBATR LIB(&LB)
_ 15 Clr xref files Clear x-ref files *RUNCMD Y ? CLRPGMXREF LIBRARY(
More...
F3=Exit F5=Refresh F6=Create F7=Func key defaults F12=Cancel
3
9/2
9, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-10.

The panel above displays the options available from the WWL panel when you first install Docu-Mint. Press F6 to create new options, or use option 3 to copy an existing option to create a new one. You can also use option 2 to change existing options, and option 4 to delete them. Option 5 displays some summary information about the option, including the full attached command string.

The available options are of two types: *DEFAULT and *RUNCMD. The sections below describe how to modify each of the option types.

Customizing the *DEFAULT Options

With the exception of the option 1 on the WWL screen (which presents the **Work with Analyzed Objects** panel for the selected library), the *DEFAULT options are sensitive to the object type of the entry selected. This means that you can customize what happens when the option is selected for programs, files, data areas, and any valid object type.

For example, the change option (option 2) is shipped with over 30 different variations on what it can do, ranging from starting SEU on source members to executing WRKxxx and CHGxxx commands for various object types.

Below is an illustration of the panel presented when you select option 2 to change the **Work with System Libraries** option 2:

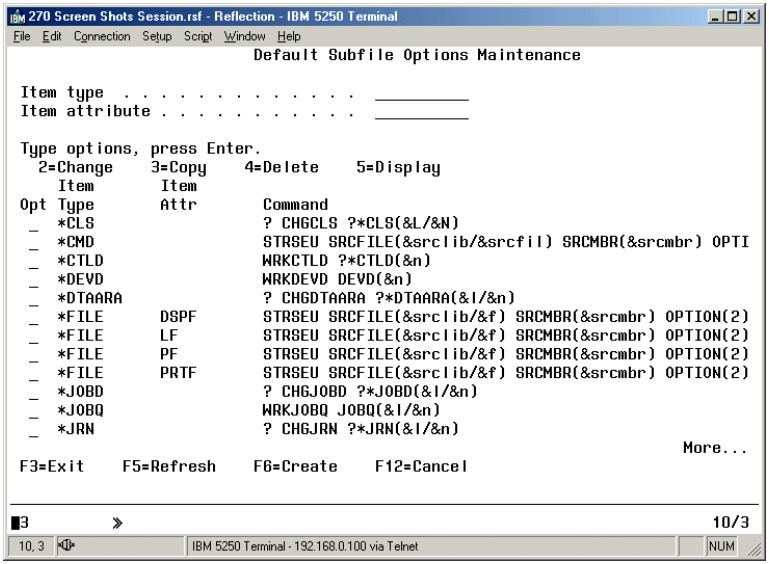
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Default Subfile Options Maintenance
Item type . . . . . _____
Item attribute . . . . . _____
Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display
Item Item
Opt Type Attr Command
_ *CLS ? CHGCLS ?*CLS(&L/&N)
_ *CMD STRSEU SRCFILE(&srclib/&srcfil) SRCMBR(&srcmbr) OPTI
_ *CTLD WRKCTLD ?*CTLD(&n)
_ *DEVD WRKDEVD DEVD(&n)
_ *DTAARA ? CHGDTAARA ?*DTAARA(&l/&n)
_ *FILE DSPF STRSEU SRCFILE(&srclib/&f) SRCMBR(&srcmbr) OPTION(2)
_ *FILE LF STRSEU SRCFILE(&srclib/&f) SRCMBR(&srcmbr) OPTION(2)
_ *FILE PF STRSEU SRCFILE(&srclib/&f) SRCMBR(&srcmbr) OPTION(2)
_ *FILE PRTF STRSEU SRCFILE(&srclib/&f) SRCMBR(&srcmbr) OPTION(2)
_ *JOBD ? CHGJOBD ?*JOBD(&l/&n)
_ *JOBQ WRKJOBQ JOBQ(&l/&n)
_ *JRN ? CHGJRN ?*JRN(&l/&n)
More...
F3=Exit F5=Refresh F6=Create F12=Cancel
3
10/3
10, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-11.

You can use the Page Up and Page Down keys to roll through this list or type an object type in the position-to field to go directly to a specific entry. For object types with multiple attributes (for example *FILE) you can also type the object attribute in the position-to field to further refine your search.

The options shown here are a subset of all the entries in the Docu-Mint options control file. If you want to work with the full list of options available in the software, you can press F17=Config Menu from the **Work with System Libraries** screen, to present the **Docu-Mint Configuration Menu**. From that menu you can select option 13, Maintain Options Control File, to work with the complete list. The options control maintenance interface is described in detail in the section **Option 13 – Maintain the Options Control File** on page 141.

Press F6 to create new entries, or use option 2 to work with the existing ones.

Here is an illustration of the panel presented when you work with an existing option:

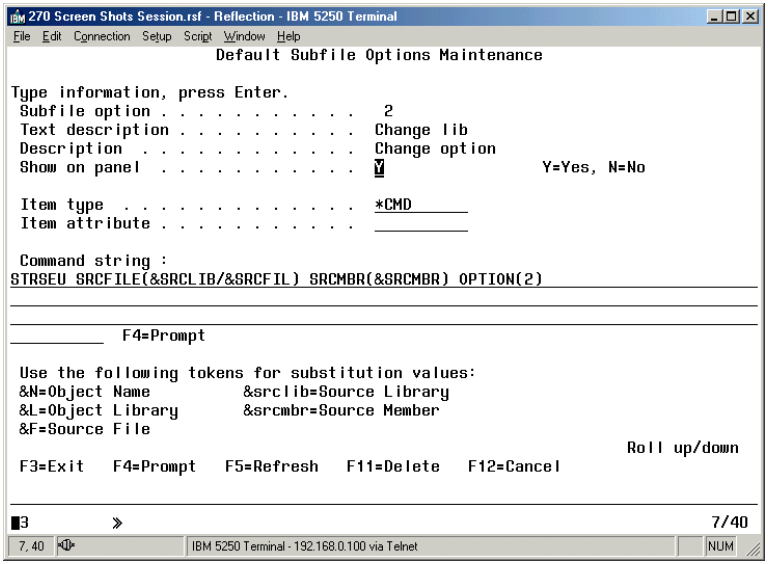
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Default Subfile Options Maintenance
Type information, press Enter.
Subfile option 2
Text description . . . . . Change lib
Description . . . . . Change option
Show on panel . . . . . Y Y=Yes, N=No
Item type . . . . . *CMD
Item attribute . . . . . _____
Command string :
STRSEU SRCFILE(&SRCLIB/&SRCFIL) SRCMBR(&SRCMBR) OPTION(2)
F4=Prompt
Use the following tokens for substitution values:
&N=Object Name &srclib=Source Library
&L=Object Library &srcmbr=Source Member
&F=Source File
Roll up/down
F3=Exit F4=Prompt F5=Refresh F11=Delete F12=Cancel
3 7/40
7, 40
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 4-12.

For *DEFAULT options, the option number and text descriptions cannot be changed.

Show on panel

Type N if you want to hide this option from the WWL or WWO displays. This option is useful if you want to show only a particular subset of options, or if you want to hide the options you know you'll remember, so you can display some of the more obscure ones on the default screen.

Item type/attribute

This is the object type selected, and the additional attribute (for example, *PF for physical files).

Command String

The screen above shows an illustration of the command string to execute a STRSEU with several additional parameters. In this instance, the command is simply executed and no prompt is presented.

To prompt a command, begin the string, and any necessary parms, with a question mark. If you want the user to be able to change a parm, add two question marks to the beginning of the string. Here is an example showing both variations:

```
? RNMM ?*FILE(&L/&F) ?*MBR(&N) ??NEWMBR(&N)
```

SECTION

III

Menu Reference

In this Section:

Chapter 5 - Menu DM#LIB: Library Selection and Analysis

Chapter 6 - Menu DM#OBJ: Object Cross Reference

Chapter 7 - Menu DM#FLD: Field Cross Reference

Chapter 8 - Menu DM#UTL: Docu-Mint Utilities

Chapter 9 - Menu DM#CFG: Docu-Mint Configuration

Chapter 10 - Menu DM#ANZ: Object Documentation

CHAPTER 5

Menu DM#LIB: Library Selection and Analysis

Option 1 from the **Docu-Mint Main Menu** presents the menu DM#LIB, where the most important available options are those related to the cycle of marking and analyzing libraries, and then checking for analysis errors. This is the process to follow each time you need to extract information from a new library. This menu also provides access to some additional options related to refreshing the library information Docu-Mint stores in its internal files.

Here is an illustration of the menu DM#LIB:

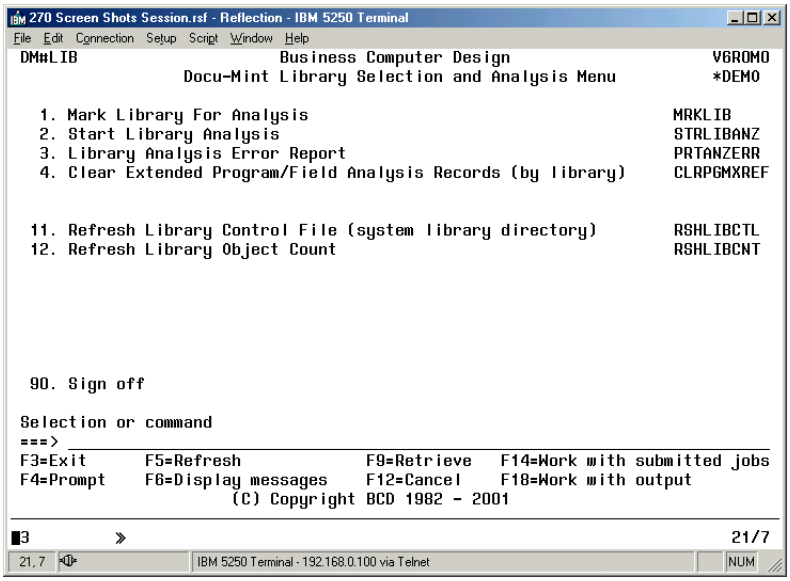
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#LIB Business Computer Design V6ROMO
Docu-Mint Library Selection and Analysis Menu *DEMO
1. Mark Library For Analysis MRKLIB
2. Start Library Analysis STRLIBANZ
3. Library Analysis Error Report PRTANZERR
4. Clear Extended Program/Field Analysis Records (by library) CLRPGMXREF
11. Refresh Library Control File (system library directory) RSHLIBCTL
12. Refresh Library Object Count RSHLIBCNT
90. Sign off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 5-1.

This chapter describes each of these options in detail. The commands are also described in the Command Reference section at the end of this guide.

Option 1 – Mark Library for Analysis

The **Mark Library** command must be used in order to flag a library to be loaded into Docu-Mint's internal cross reference files by a subsequent run of the Start Library Analysis (STRLIBANZ) command. Marking a library takes only a few seconds and does not execute any analysis of the library's contents. Any number of libraries may be marked during the course of the day and then analyzed by a single execution of Start Library Analysis command.

You may also use the MRKLIB command to remove library information from the Docu-Mint cross reference files. This is something you might do if a library has been deleted from your system, or for some reason you don't want your Docu-Mint command output to include information from the objects in a specific library.

Note that the MRKLIB command of itself executes no actions; rather the changes are applied the next time you run the STRLIBANZ command.

When you execute the MRKLIB command or option, the panel below is presented:

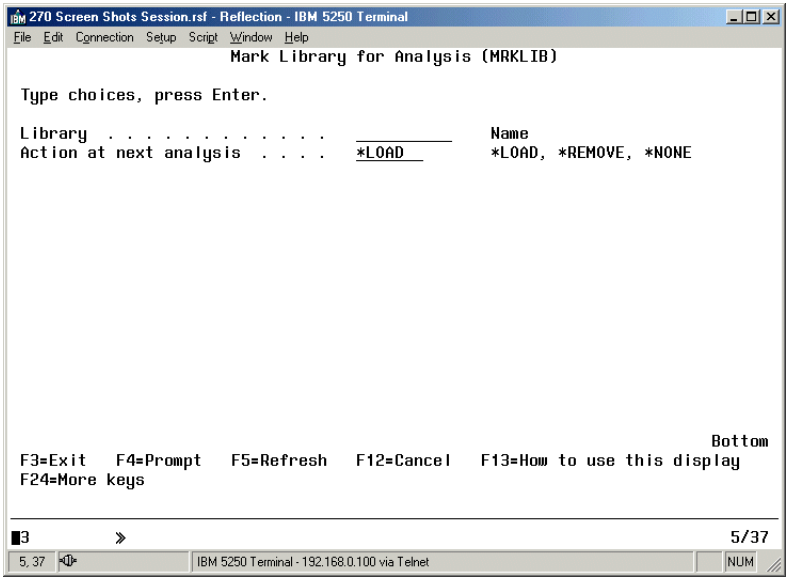
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Mark Library for Analysis (MRKLIB)
Type choices, press Enter.
Library . . . . . Name
Action at next analysis . . . . *LOAD *LOAD, *REMOVE, *NONE
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 5-2.

The MRKLIB command requires only two values: the name of the library to mark, and the action for which it is being marked. Most frequently you will

select an action of *LOAD, unless you need to remove a library from Docu-Mint's internal database, in which case you can select an action of *REMOVE. If you select the option to remove, an addition option comes up, to remove just cross reference information (*XREF), or everything (*ALL). Normally you should select the option *ALL.

Option 2 – Start Library Analysis

The **Start Library Analysis** command initiates the analysis of objects and source members within a library. This command needs to be used in conjunction with the MRKLIB command, which flags the libraries to be analyzed. Once you have marked all the libraries that need to be analyzed, you can execute the Start Library Analysis command to begin an analysis of the requested libraries.

When you select menu option 2 or run the STRLIBANZ command, the panel below is presented (F10 has been pressed to show the additional parameters):

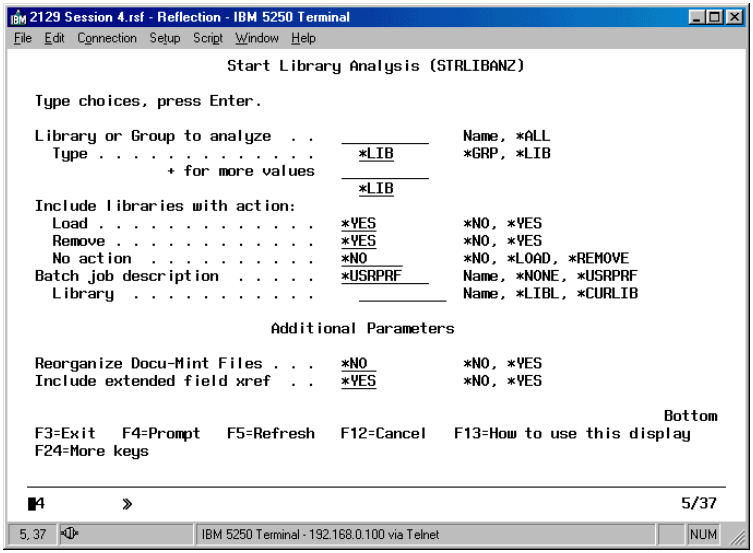
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Start Library Analysis (STRLIBANZ)
Type choices, press Enter.
Library or Group to analyze . . *LIB Name, *ALL
Type . . . . . *LIB *GRP, *LIB
+ for more values *LIB
Include libraries with action:
Load . . . . . *YES *NO, *YES
Remove . . . . . *YES *NO, *YES
No action . . . . . *NO *NO, *LOAD, *REMOVE
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Additional Parameters
Reorganize Docu-Mint Files . . . *NO *NO, *YES
Include extended field xref . . *YES *NO, *YES
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 5-3.

The STRLIBANZ command requires a library or library group name. You can also analyze multiple libraries at once by typing a '+' where indicated, then entering the additional library names.

To group libraries together, use the CHGLIBATR command, or press F6 from the WWL screen to present the **Work with Library Groups** panel.

The defaults for the remaining options will normally work fine for you. The only one you may want to give consideration to is the last one, to include extended field cross reference information. The extended field cross reference options require that very detailed (i.e. space consuming) information be extracted from your files, so if you aren't going to be using those functions, you may want to set this option to *NO. You can clear these internal files at any time using the CLRPGMXREF command.

For a complete description of each of the command parameters, please refer to Section V, **Docu-Mint Command Reference**.

Option 3 – Library Analysis Error Report

Use option 3 to print an error analysis report for a selected library, or all libraries. The error analysis report includes a list of objects Docu-Mint was unable to analyze properly, and some summary information as to why the analysis failed.

The report includes information such as the object name, library, type, attribute and source data along with an error message ID and a brief description of the error. This report will help you take the proper measures to obtain a clean analysis of the objects on your system.

When you select the option to run the PRTANZERR command Docu-Mint prompts you for a library name, or you can also accept the default value of *ALL libraries.

Here is a sample of the report output from the error report over the library DB#LIB:

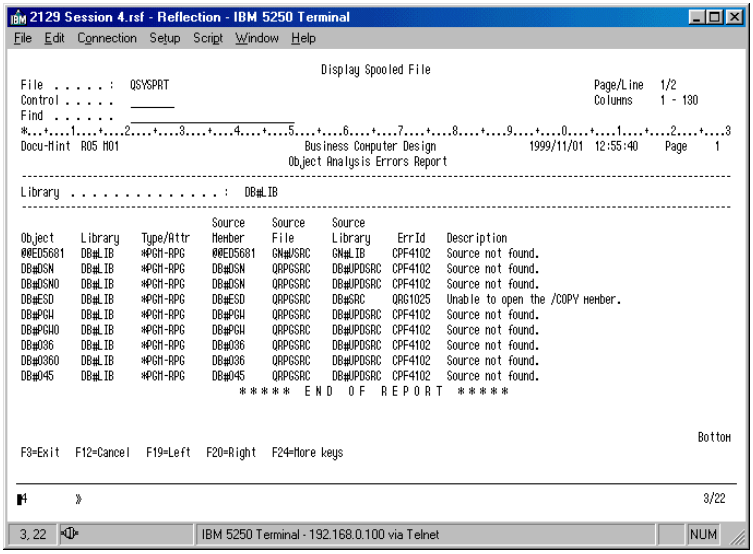
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Spooled File
File . . . . . : QSYSPRT
Page/Line 1/2
Control . . . . . _____
Columns 1 - 130
Find . . . . . _____
Docu-Mint R05 M01 Business Computer Design 1999/11/01 12:55:40 Page 1
Object Analysis Errors Report
Library . . . . . : DB#LIB
Object Library Type/Attr Source Member Source File Source Library ErrId Description
@@ED5681 DB#LIB *PGM-RPG @@ED5681 GN#WSRC GN#LIB CPF4102 Source not found.
DB#DSN DB#LIB *PGM-RPG DB#DSN QRPGSRC DB#UPDSRC CPF4102 Source not found.
DB#DSN0 DB#LIB *PGM-RPG DB#DSN QRPGSRC DB#UPDSRC CPF4102 Source not found.
DB#ESD DB#LIB *PGM-RPG DB#ESD QRPGSRC DB#SRC QRG1025 Unable to open the /COPY member.
DB#PGW DB#LIB *PGM-RPG DB#PGW QRPGSRC DB#UPDSRC CPF4102 Source not found.
DB#PGW0 DB#LIB *PGM-RPG DB#PGW QRPGSRC DB#UPDSRC CPF4102 Source not found.
DB#036 DB#LIB *PGM-RPG DB#036 QRPGSRC DB#UPDSRC CPF4102 Source not found.
DB#0360 DB#LIB *PGM-RPG DB#036 QRPGSRC DB#UPDSRC CPF4102 Source not found.
DB#045 DB#LIB *PGM-RPG DB#045 QRPGSRC DB#UPDSRC CPF4102 Source not found.
***** END OF REPORT *****
Bottom
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 5-4.

The most common error here is that the source for an object wasn't found. If you look at the source library it's looking for, you can see that it's DB#UPDSRC, so it appears that the objects in error were initially compiled into a test library, then moved directly to DB#LIB, rather than recompiled into DB#LIB. This problem could be remedied by creating one or two alternate source entries (option 11 from the Docu-Mint Configuration Menu), to redirect Docu-Mint when it tries to find source for the objects in this library.

As for the remaining error, 'Unable to open the /COPY member', we would have to go to the member DB#ESD in DB#SRC, and see where it was trying to find the /COPY member, and why it couldn't open it (probably because it no longer exists, or has been moved).

Remember that even though some objects may not have been analyzed, the remainder of the library has. Any subsequent commands you run to work with your results will be complete with the exception of the objects that failed.

Working with Analysis Errors Interactively

As of version 6.00, Docu-Mint has also included an option from the **Work with System Libraries** (WWL) panel for working with your analysis errors in an interactive display. The WWL screen is the default initial panel when you run the STRDOC command, and from there you can select option 10=View/Print Err to present a panel similar to this one:

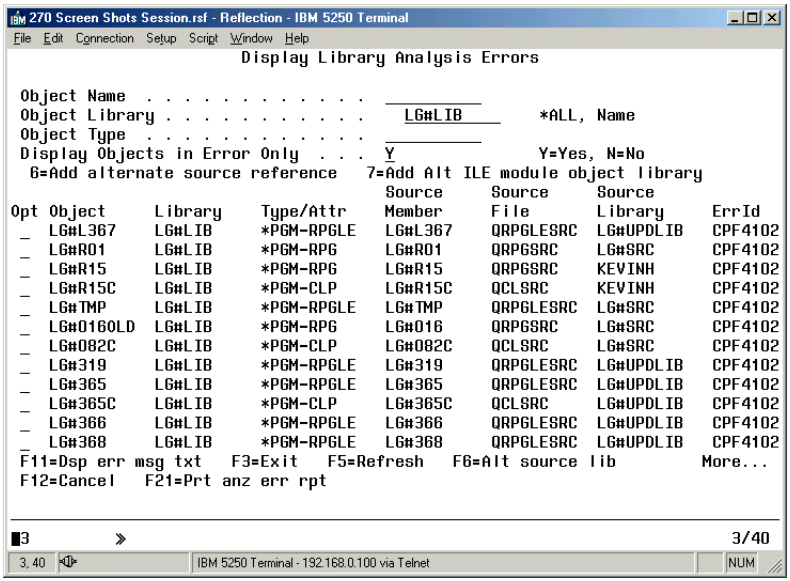
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Library Analysis Errors
Object Name . . . . . _____
Object Library . . . . . LG#LIB *ALL, Name
Object Type . . . . . _____
Display Objects in Error Only . . . Y Y=Yes, N=No
6=Add alternate source reference 7=Add Alt ILE module object library
Opt Object Library Type/Attr Member File Library ErrId
_ LG#L367 LG#LIB *PGM-RPGLE LG#L367 QRPGLESRC LG#UPDLIB CPF4102
_ LG#R01 LG#LIB *PGM-RPG LG#R01 QRPGSRC LG#SRC CPF4102
_ LG#R15 LG#LIB *PGM-RPG LG#R15 QRPGSRC KEVINH CPF4102
_ LG#R15C LG#LIB *PGM-CLP LG#R15C QCLSRC KEVINH CPF4102
_ LG#TMP LG#LIB *PGM-RPGLE LG#TMP QRPGLESRC LG#SRC CPF4102
_ LG#0160LD LG#LIB *PGM-RPG LG#016 QRPGSRC LG#SRC CPF4102
_ LG#082C LG#LIB *PGM-CLP LG#082C QCLSRC LG#SRC CPF4102
_ LG#319 LG#LIB *PGM-RPGLE LG#319 QRPGLESRC LG#UPDLIB CPF4102
_ LG#365 LG#LIB *PGM-RPGLE LG#365 QRPGLESRC LG#UPDLIB CPF4102
_ LG#365C LG#LIB *PGM-CLP LG#365C QCLSRC LG#UPDLIB CPF4102
_ LG#366 LG#LIB *PGM-RPGLE LG#366 QRPGLESRC LG#UPDLIB CPF4102
_ LG#368 LG#LIB *PGM-RPGLE LG#368 QRPGLESRC LG#UPDLIB CPF4102
F11=Dsp err msg txt F3=Exit F5=Refresh F6=Alt source lib More...
F12=Cancel F21=Prt anz err rpt
3 3/40
3, 40 IBM 5250 Terminal - 192.168.0.100 via Telnet NUM

Figure 5-5.

The advantage to this interface is that while it displays the same information as the report, it also includes useful shortcuts for adding alternate source and ILE module object library references.

The Display Library Analysis Errors panel is described in detail in the section **Working with Analysis Errors** on page 54 of Chapter 3.

Option 4 – Clear Extended Program/Field Analysis Records

By default, Docu-Mint collects extended field analysis information every time you analyze a library. Due to the volume and detail of this information, the Docu-Mint internal files may grow larger than you like, in which case the file can be cleared. When you clear these files, you can no longer use the Extended Field Analysis functions in Docu-Mint (options 20 and 21 from the Main Menu), but all other commands and options will still work fine.

Option 4 from the DM#LIB menu allows you to run the CLRPGMXREF command, to clear the files.

After the records are purged the file can be reorganized for optimum performance and DASD utilization. This is useful in conserving storage utilization. If this data is required at a later date, you need to mark the library for removal and analysis using the MRKLIB/STRLIBANZ cycle, and subsequently load the library again by the same mechanism.

Below is an illustration of the panel presented when you select this option:

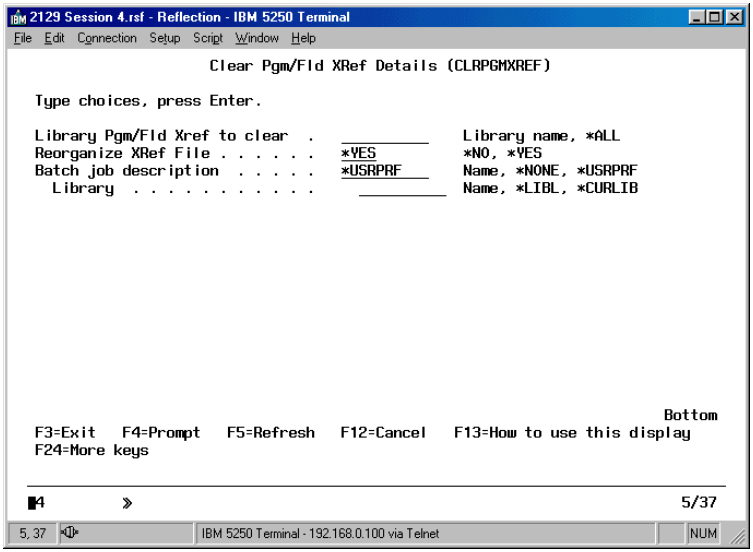
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Clear Pgm/Fld XRef Details (CLRPGMXREF)
Type choices, press Enter.
Library Pgm/Fld Xref to clear . Library name, *ALL
Reorganize XRef File . . . . . *YES *NO, *YES
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 5-6.

Type a library name for which you want to clear the extended field analysis internal records. When doing this, you will normally want to specify *YES for the RGZPFM parm, in order to reclaim the space freed up by the purged records.

Option 11 – Refresh Library Control File

The **Refresh Library Control** command is used to maintain Docu-Mint's library control file to insure all libraries on your system are in the control file to be later displayed by the **Work with System Libraries** panel. Use this command to load the library control file initially and again as required to refresh (update) the records in this file.

Option 12 – Refresh Library Object Count

The **Refresh Library Counts** command is used to maintain Docu-Mint's library control file (DLIBCP) to quickly update the count of the number of objects in a library, to be displayed by the **Work with System Libraries** panel.

CHAPTER 6

Menu DM#OBJ: Object Cross Reference

Select option 2 from the Docu-Mint Main Menu to present the **Object Cross Reference Menu** (DM#OBJ). The options on this menu include the commonly used Work with Used Objects (WUO) and Work with Where Used (WWU) commands. Note that you must mark and analyze your libraries before object information will be available from these menu options.

From this panel you can also access the **Object Documentation Menu** (DM#ANZ) using option 30. This menu is described in Chapter 10 of this guide.

Below is an illustration of the options available on the DM#OBJ menu:

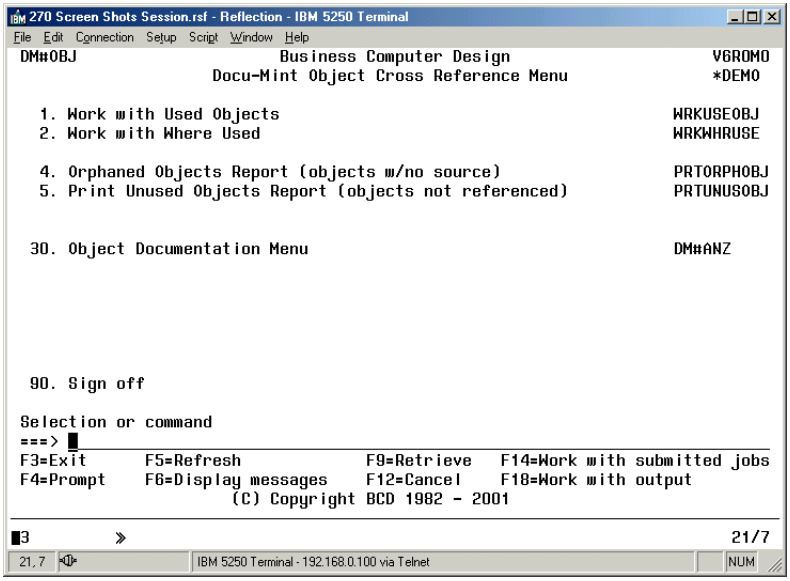
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#OBJ Business Computer Design V6ROMO
Docu-Mint Object Cross Reference Menu *DEMO
1. Work with Used Objects WRKUSEOBJ
2. Work with Where Used WRKWHRUSE
4. Orphaned Objects Report (objects w/no source) PRTORPHOBJ
5. Print Unused Objects Report (objects not referenced) PRTUNUSOBJ
30. Object Documentation Menu DM#ANZ
90. Sign off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-1.

The next sections of this chapter describe each of these options in detail.

For a complete listing and explanation of each of these commands and their parms, please refer to Section V, **Docu-Mint Command Reference**.

Option 2 – Work with Used Objects

The Work with Used Objects option provides you with a list interface to the objects used by commands, menus, procedures, programs, modules, service programs, queries and user profiles on your system.

Work with Used Objects (WUO) allows you to work with lists representing the flow of work on your system. From these lists you can perform operations such as copy, delete, edit and rename.

Below is an illustration of the options presented when you run the Work with Used Objects:

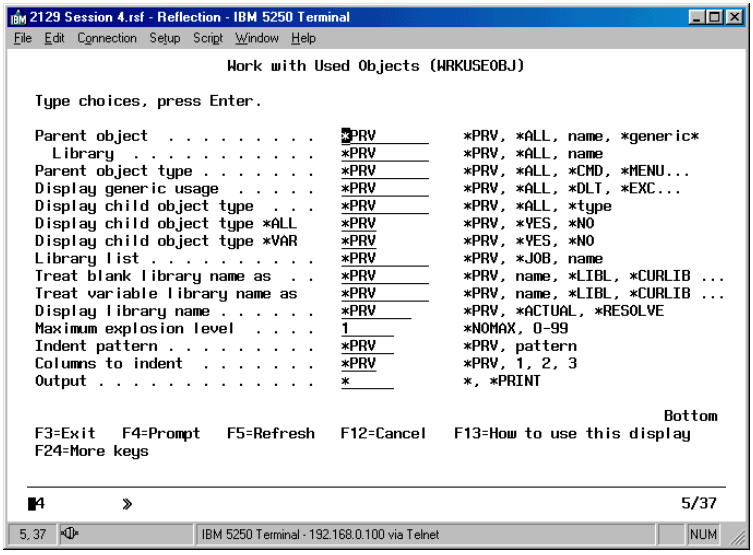
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Used Objects (WRKUSEOBJ)
Type choices, press Enter.
Parent object . . . . . *PRV *PRV, *ALL, name, *generic*
Library . . . . . *PRV *PRV, *ALL, name
Parent object type . . . . . *PRV *PRV, *ALL, *CMD, *MENU...
Display generic usage . . . . . *PRV *PRV, *ALL, *DLT, *EXC...
Display child object type . . . *PRV *PRV, *ALL, *type
Display child object type *ALL *PRV *PRV, *YES, *NO
Display child object type *VAR *PRV *PRV, *YES, *NO
Library list . . . . . *PRV *PRV, *JOB, name
Treat blank library name as . . *PRV *PRV, name, *LIBL, *CURLIB ...
Treat variable library name as *PRV *PRV, name, *LIBL, *CURLIB ...
Display library name . . . . . *PRV *PRV, *ACTUAL, *RESOLVE
Maximum explosion level . . . . 1 *NOMAX, 0-99
Indent pattern . . . . . *PRV *PRV, pattern
Columns to indent . . . . . *PRV *PRV, 1, 2, 3
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-2.

When you initially run this command, all parameters except the Maximum explosion level and the Output default to *PRV, indicating that command will use the parameter values from the last time it was executed.

To run a WUO the critical values you need to specify are the Parent object and library and the Parent object type. The remaining options allow you to customize the output you'll see in the report.

For a detailed description of all the command parameters, please refer to Section V, **Docu-Mint Command Reference**. The next few sections describe how to work with the command output.

Using the Work with Used Objects Display

Below is a sample of the output for WUO object command, when run over the program GN#G01 in GN#LIB, with a maximum explosion level of 3:

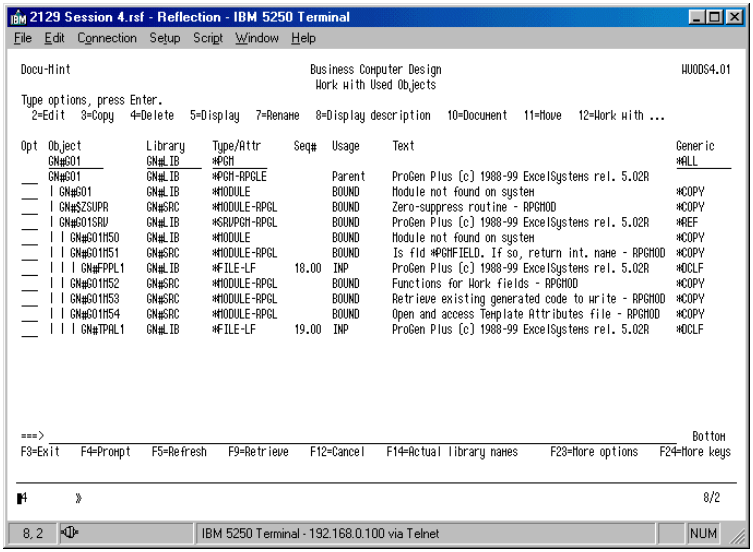
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Business Computer Design
Work with Used Objects
WUODS4.01
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display description 10=Document 11=Move 12=Work with ...
Opt Object Library Type/Attr Seq# Usage Text Generic
GN#G01 GN#LIB *PGM *ALL
__ GN#G01 GN#LIB *PGM-RPGLE Parent ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R
__ | GN#G01 GN#LIB *MODULE BOUND Module not found on system *COPY
__ | GN#$ZSUPR GN#SRC *MODULE-RPGL BOUND Zero-suppress routine - RPGMOD *COPY
__ | GN#G01SRV GN#LIB *SRVPGM-RPGL BOUND ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *REF
__ | | GN#G01M50 GN#LIB *MODULE BOUND Module not found on system *COPY
__ | | GN#G01M51 GN#SRC *MODULE-RPGL BOUND Is fld *PGMFIELD. If so, return int. name - RPGMOD *COPY
__ | | | GN#FPPL1 GN#LIB *FILE-LF 18.00 INP ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *OCLF
__ | | GN#G01M52 GN#SRC *MODULE-RPGL BOUND Functions for Work fields - RPGMOD *COPY
__ | | GN#G01M53 GN#SRC *MODULE-RPGL BOUND Retrieve existing generated code to write - RPGMOD *COPY
__ | | GN#G01M54 GN#SRC *MODULE-RPGL BOUND Open and access Template Attributes file - RPGMOD *COPY
__ | | | GN#TPAL1 GN#LIB *FILE-LF 19.00 INP ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *OCLF
===>
Bottom
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F12=Cancel F14=Actual library names F23=More options F24=More keys
8/2
8, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-3.

Object

This field can be used to change the parent object name. After changing this value and pressing Enter, the WUO list display is rebuilt based on the new selection criteria.

The list portion of this column displays the object name. If the object name is not indented, the object displayed represents a parent object and appears in the list because it matches the Object, Library and Type/Attr criteria you requested. All parent objects are further identified by a Usage value of 'Parent'. Conversely, an indented object name indicates a child object that is used by the executable object higher in the list. Since only 6 spaces are allocated to indent an object name, all levels beyond this limit will display a number to the left of the object name indicating the indent level the object resides at.

Library

Use this field to change the parent object library name.

The list portion displays the object library. The library name value displayed is dependent upon the value of the Display library name parameter. Press F14 (Actual/Resolved library names) to toggle between showing the actual library name from Docu-Mint's cross reference data base and the resolved library name.

Type/Attr

Use this field to change the parent object type.

The list portion displays the type of object, such as *DTAARA, *FILE, *PGM, etc. The attribute of the object (such as CLP, LF, PF, RPG) is appended to the type if applicable.

Seq#

This represents the source sequence number of the program or procedure at which the object is used, or the menu option number that initiates execution of the object.

Usage

This column indicates how the object is used. Normally, object usage is described by the name of the command or procedure operating on a given object. For an explanation of the special object usage descriptions defined by Docu-Mint, refer to **Docu-Mint Terminology** on page 23.

Text

This is a description of the object. Note that the Generic input field (see next) appears below this heading on 80 character displays.

Generic

You can use this field to change the generic usage subset criteria. Due to space limitations, this input field appears below the Text heading on 80 character displays.

In the list portion of the screen, this column displays the generic usage value for the object. Due to space limitations, this field does not appear on 80 character displays.

Function Keys

F14=Actual/Resolved library names

Press F14 to toggle the display between showing the actual library names from the object cross reference file or the resolved library names as determined by Docu-Mint. Pressing F14 is equivalent to flipping the Display library name parameter from *ACTUAL to *RESOLVE or vice-versa.

F16=Position to

Toggles between positioning the display to the top of the list and the bottom of the list.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See **Using the Subset Work with Used Objects Display** below for further information.

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See the section **Using the Change Session Defaults Display** below for further information.

F21=Print list

Prints the current form of the list.

Options

10=Document

Use option 10 to execute the DOCOBJ command for any entry in a used objects listing. This command is useful for refreshing changed information in already analyzed libraries, or when the listing includes an object that itself has not been previously analyzed.

The remaining options are similar to those available from PDM.

Using the Subset Work with Used Objects Display

Press F17 from the WUO panel or the Change Session Defaults panel to display the **Subset Work with Used Objects** panel. From here you can make changes to the parameters which control the amount of information appearing in the main used objects list. After making any changes and pressing Enter, the list is rebuilt based on the new selection criteria. Each prompt on the **Subset Work with Used Objects** display corresponds to a parameter of the WRKUSEOBJ command.

Below is an illustration of the **Subset Work with Used Objects** panel:

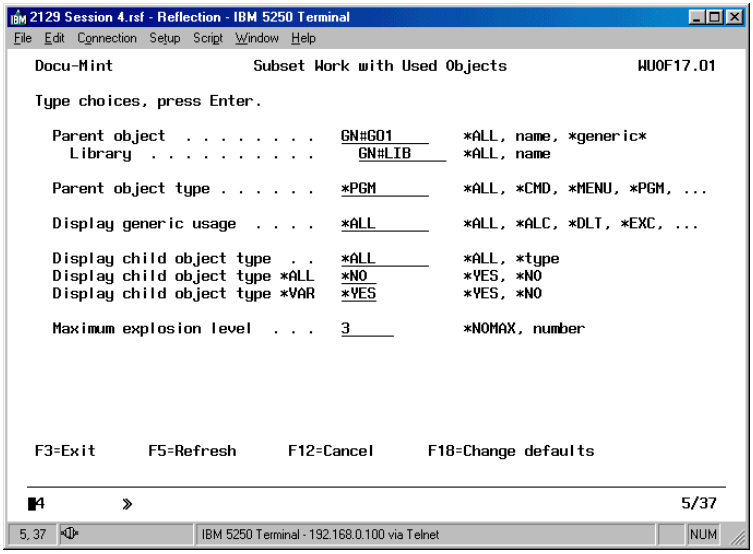
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Subset Work with Used Objects WUOF17.01
Type choices, press Enter.
Parent object . . . . . GN#GO1 *ALL, name, *generic*
Library . . . . . GN#LIB *ALL, name
Parent object type . . . . . *PGM *ALL, *CMD, *MENU, *PGM, ...
Display generic usage . . . . *ALL *ALL, *ALC, *DLT, *EXC, ...
Display child object type . . *ALL *ALL, *type
Display child object type *ALL *NO *YES, *NO
Display child object type *VAR *YES *YES, *NO
Maximum explosion level . . . 3 *NOMAX, number
F3=Exit F5=Refresh F12=Cancel F18=Change defaults
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-4.

The command parameters shown above represent a subset of those available when you initially run the WRKUSEOBJ command, and are described in detail in Section V, **Docu-Mint Command Reference**.

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

Using the Change Session Defaults Display

The **Change Session Defaults** display allows you to change the parameters controlling the appearance of the information in the main Used Objects list. With the exception of 'Screen size', each prompt on the **Change Session Defaults** display corresponds to a parameter of the WRKUSEOBJ command. These are described in detail in Section V, **Docu-Mint Command Reference**, under the WRKUSEOBJ command entry.

The **Change Session Defaults** display may be reached by pressing F18 from either the main used objects list or the **Subset Work with Used Objects** display.

Below is an illustration of this panel:

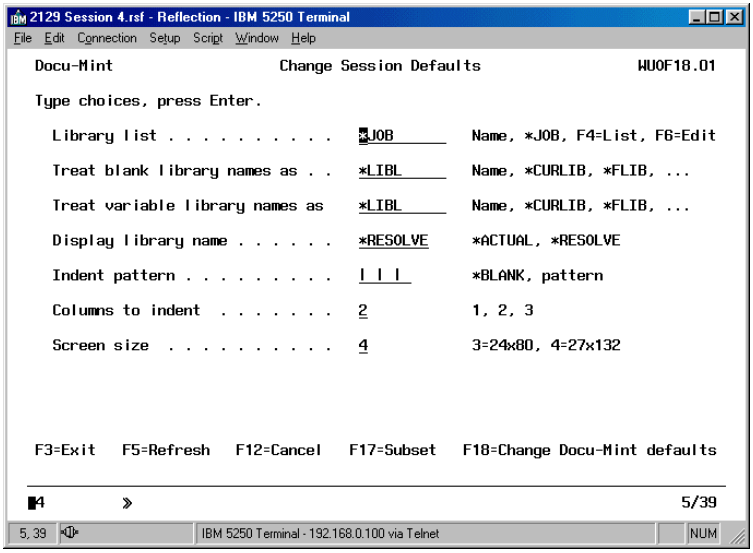
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Change Session Defaults WUOF18.01
Type choices, press Enter.
Library list . . . . . *JOB Name, *JOB, F4=List, F6=Edit
Treat blank library names as . . *LIBL Name, *CURLIB, *FLIB, ...
Treat variable library names as *LIBL Name, *CURLIB, *FLIB, ...
Display library name . . . . . *RESOLVE *ACTUAL, *RESOLVE
Indent pattern . . . . . | | | *BLANK, pattern
Columns to indent 2 1, 2, 3
Screen size . . . . . 4 3=24x80, 4=27x132
F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Change Docu-Mint defaults
4 5/39
5, 39
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-5.

Explanation of Panel

If any of the first three values are changed (Library list, Treat blank library names as... and Treat variable library names as...) the list is rebuilt.

The next three prompts (Display library name, Indent pattern and Columns to indent) will change the appearance of the information appearing in the list without rebuilding the list.

The final prompt (Screen size) appears only if the workstation you are using is capable of supporting a 27 by 132 character display. Type 3 to select a 24 by 80 screen size, 4 to select a 27 by 132 screen size. Changing the screen size does not cause the list to be rebuilt.

F4=List

F4 presents a display that allows you to select a named library list from a list of predefined library lists. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F6=Edit

F6 presents a display that allows you to modify the library list used by WUO when resolving object libraries. A value of *USRDFN (User defined) denotes a unique combination of libraries not represented by a named library list. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See the previous section of this chapter for a description of how to use the panel presented.

F18=Change Docu-Mint defaults

Presents a display which allows you to select the default values for certain operations in Docu-Mint. For additional information on the changing Docu-Mint defaults, refer to **Docu-Mint Terminology** on page 23.

Option 3 – Work with Where Used

The Work with Where Used (WWU) option allows you to present a list interface for locating where objects are used on your system. From this list you can perform operations such as copy, delete, edit and rename.

When you select the Work with Where Used option, the panel below is presented:

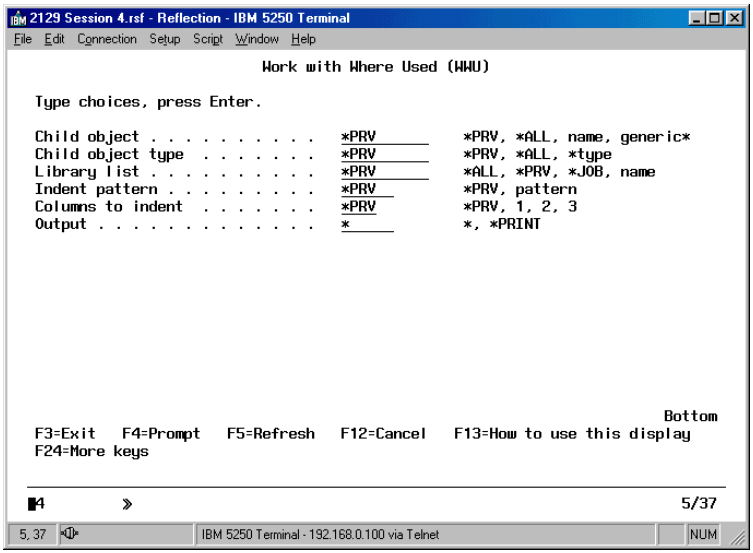
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Where Used (WWU)
Type choices, press Enter.
Child object . . . . . *PRV *PRV, *ALL, name, generic*
Child object type . . . . . *PRV *PRV, *ALL, *type
Library list . . . . . *PRV *ALL, *PRV, *JOB, name
Indent pattern . . . . . *PRV *PRV, pattern
Columns to indent . . . . . *PRV *PRV, 1, 2, 3
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-6.

The only required command parameters are the child object and object type. For a complete description of all the command parameters, please refer to Section V, **Docu-Mint Command Reference**.

The next section describes how to work with the WWU output.

Using the Work with Where Used Display

This section describes the various elements of the Work with Where Used list display.

Below is a sample of the output when running the WWU command over the program GN#HLP:

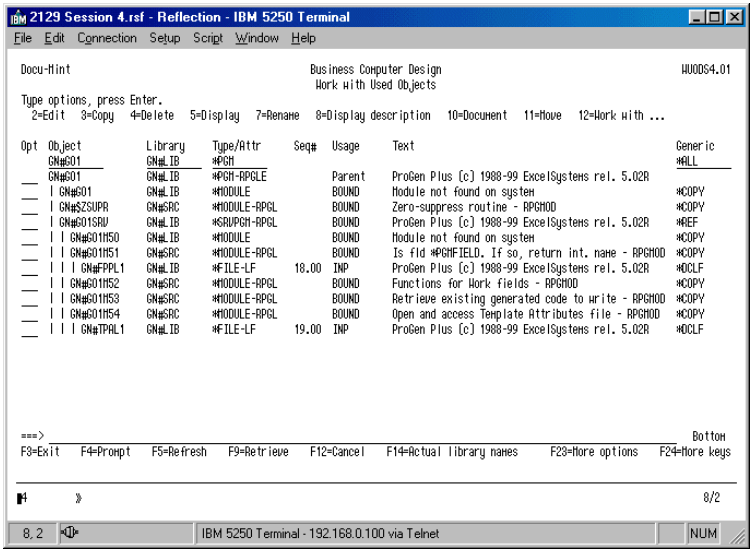
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Business Computer Design
Work with Used Objects
WUODS4.01
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display description 10=Document 11=Move 12=Work with ...
Opt Object Library Type/Attr Seq# Usage Text Generic
GN#G01 GN#LIB *PGM *ALL
GN#G01 GN#LIB *PGM-RPGLE Parent ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R
| GN#G01 GN#LIB *MODULE BOUND Module not found on system *COPY
| GN#$ZSUPR GN#SRC *MODULE-RPGL BOUND Zero-suppress routine - RPGMOD *COPY
| GN#G01SRV GN#LIB *SRVPGM-RPGL BOUND ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *REF
| | GN#G01M50 GN#LIB *MODULE BOUND Module not found on system *COPY
| | GN#G01M51 GN#SRC *MODULE-RPGL BOUND Is fld *PGMFIELD. If so, return int. name - RPGMOD *COPY
| | | GN#FPPL1 GN#LIB *FILE-LF 18.00 INP ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *OCLF
| | GN#G01M52 GN#SRC *MODULE-RPGL BOUND Functions for Work fields - RPGMOD *COPY
| | GN#G01M53 GN#SRC *MODULE-RPGL BOUND Retrieve existing generated code to write - RPGMOD *COPY
| | GN#G01M54 GN#SRC *MODULE-RPGL BOUND Open and access Template Attributes file - RPGMOD *COPY
| | | GN#TPAL1 GN#LIB *FILE-LF 19.00 INP ProGen Plus (c) 1988-99 ExcelSystems rel. 5.02R *OCLF
===>
Bottom
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F12=Cancel F14=Actual library names F23=More options F24=More keys
8/2
8, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-7.

Object

You can use the object field to change the child object name. After changing this value and pressing Enter, the WWU list display will be rebuilt based on the new selection criteria.

The list portion of this column displays the name of the object using the selected child object. If the object name is not indented, it is the child object selected. Conversely, an indented object name indicates a parent object that uses the given child.

Library

The library in which the object resides. This value is blank for all child objects.

Type/Attr

Use this field to change the child object type. After changing this value and pressing Enter, the WWU list display will be rebuilt based on the new selection criteria.

The list portion of this column displays the object type (i.e.*DTAARA, *PGM, etc.) The object attribute, such as CLP or RPG, is appended to the type when possible.

Seq#

The source sequence number of the parent object at which the child is used.

Usage

How the child object is used. Normally, object usage is described by the name of the command or procedure operating on a given object. For an explanation of the special object usage descriptions defined by Docu-Mint, refer to object usage abbreviations in **Docu-Mint Terminology** on page 23.

Text

A description of the object.

Child

Displays the name of the child used in this particular reference. Usually the child shown here is the same as the non-indented child previously shown in the list. A child name in this column that differs from the previous child name in the Object column indicates this Child is a logical file built over the physical file child shown in the Object column.

Library

Displays the library name of the child used in this particular reference.

Function Keys

F16=Position to

Toggles between positioning the display to the top of the list and the bottom of the list.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See **Using the Subset Work with Where Used Display** below for further information.

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

F21=Print list

Prints the current form of the list.

Using the Subset Work with Where Used Display

The **Subset Work with Where Used** display allows you to make changes to the parameters which control the amount of information appearing in the main where used list. After making any changes and pressing Enter, the list is rebuilt based on the new selection criteria. Each prompt on this panel corresponds to a parameter of the WRKWHRUSE command.

You can reach the **Subset Work with Where Used** display by pressing F17 from either the main Where Used list or the **Change Session Defaults** display. Below is an illustration of the panel presented:

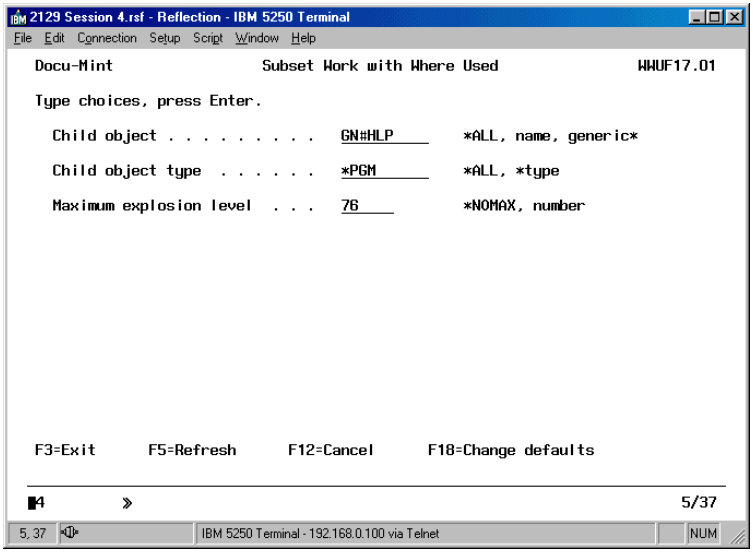
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Subset Work with Where Used WWUF17.01
Type choices, press Enter.
Child object . . . . . GN#HLP *ALL, name, generic*
Child object type . . . . . *PGM *ALL, *type
Maximum explosion level . . . 76 *NOMAX, number
F3=Exit F5=Refresh F12=Cancel F18=Change defaults
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-8.

The values initially presented reflect those selected the last time the command was executed.

Function Keys

F18=Change defaults

Presents a display that allows you to change the parameters which control the appearance of the information appearing in the list. See **Using the Change Session Defaults Display** below for further information.

Using the Change Session Defaults Display

The **Change Session Defaults** panel allows you to make changes to the parameters which control the appearance of the information appearing in the main 'where used' list. With the exception of the Screen size, each prompt on this panel corresponds to a parameter of the WRKWHRUSE command. For a complete description of the WWU command parameters, please refer to **Docu-Mint Terminology** on page 23.

This is the **Change Session Defaults** panel for the WWU command:

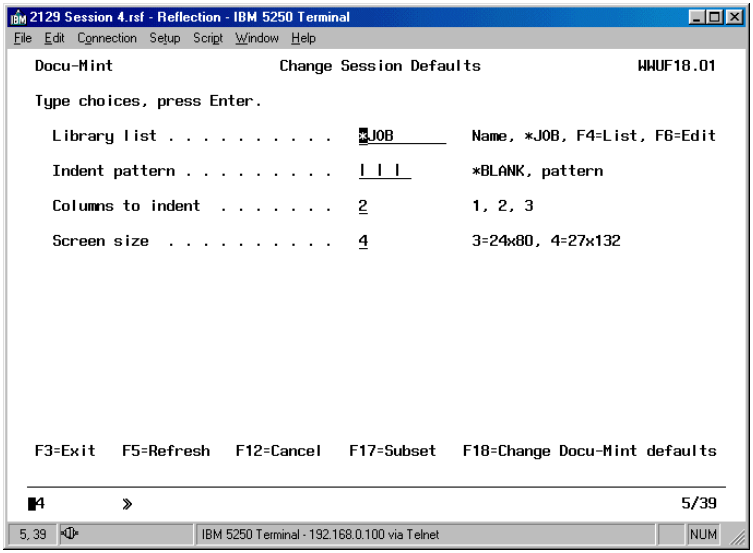
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Change Session Defaults
WWUF18.01
Type choices, press Enter.
Library list . . . . . *JOB
Name, *JOB, F4=List, F6=Edit
Indent pattern . . . . . | | |
*BLANK, pattern
Columns to indent 2
1, 2, 3
Screen size 4
3=24x80, 4=27x132
F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Change Docu-Mint defaults
4
5/39
5, 39
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-9.

Explanation of Panel

The Library list prompt causes the list to be rebuilt if the value is changed.

The next two prompts ('Indent pattern' and 'Columns to indent') change the appearance of the information appearing in the list without rebuilding the list.

The final prompt (Screen size) appears only if the workstation you are using is capable of supporting a 27 by 132 character display. Type 3 to select a 24 by 80 screen size, 4 to select a 27 by 132 screen size. Changing the screen size does not cause the list to be rebuilt.

You can reach the **Change Session Defaults** display may be reached by pressing F18 from either the main Used Objects list or the **Subset Work with Where Used** display.

Function Keys

F4=List

Presents a display that allows you to select a named library list from a list of predefined library lists. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F5=Refresh

Changes the prompts back to their original values and redisplays the screen.

F6=Edit

Presents a display that allows you to modify the library list used by WWU when resolving object libraries. A value of *USRDFN (User defined) denotes a unique combination of libraries not represented by a named library list. For more information on named library lists, see **Option 3 – Work with Library Lists** on page 134.

F17=Subset

Presents a display that allows you to change the parameters which control the amount of information appearing in the list. See **Using the Subset Work with Where Used Display** above for further information.

F18=Change Docu-Mint defaults

Presents a display which allows you to select the default values for certain operations in Docu-Mint. For additional information on the changing Docu-Mint defaults, refer to **Docu-Mint Terminology** on page 23.

Option 4 – Orphaned Objects Report

The Orphaned Objects Report is a listing of source and object discrepancies.

An 'orphaned object' is an object on your system for which the corresponding source member used to create the object has been deleted or moved from the source file where the object was originally created.

For example, information retrieved for program ORDENT in library PRODOBJ indicates that source member ORDENT in file of QRPGSRC in library TESTSRC was used to create the object. If the member ORDENT is subsequently moved to QRPGSRC in library PRODSRC the object is considered orphaned. The report generated will indicate the orphaned object and suggest source member in other locations as being the probable member used to create the object.

Note that the orphaned objects report produces a listing which includes the status of all objects in the selected library. Within this list, orphaned objects are identified with appropriate text descriptions. If you want a list limited only to objects that are not currently referenced, please refer to **Option 5 – Print Unused Objects Report** below.

Below is an illustration of the panel presented when you select this command:

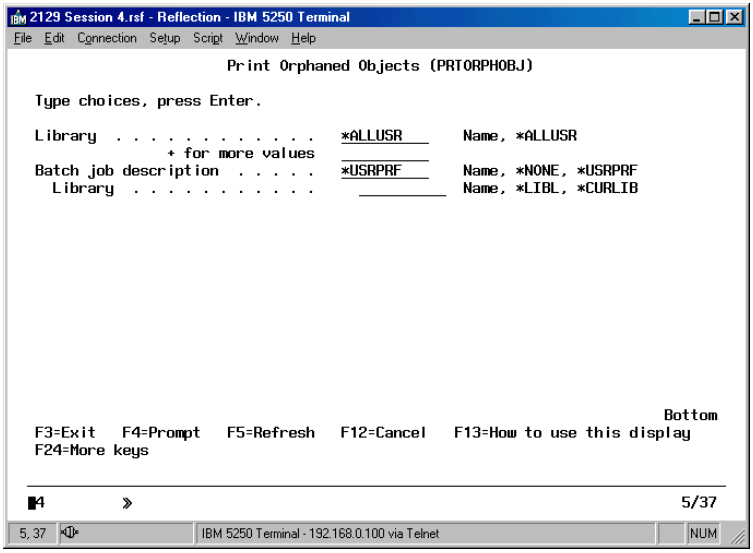
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Print Orphaned Objects (PRTORPHOBJ)
Type choices, press Enter.
Library . . . . . *ALLUSR Name, *ALLUSR
+ for more values
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-10.

Explanation of Panel

Enter a library name, or *ALLUSR. If you want to run the report for more than one specific library, type a '+' on the prompt and press Enter.

Note that the PRTORPHOBJ is extremely thorough, and as a result can take quite a long time to run if select one or more large libraries.

Below is a sample of the output of the PRTORPHOBJ command when run over the library DM#DEMOLIB.

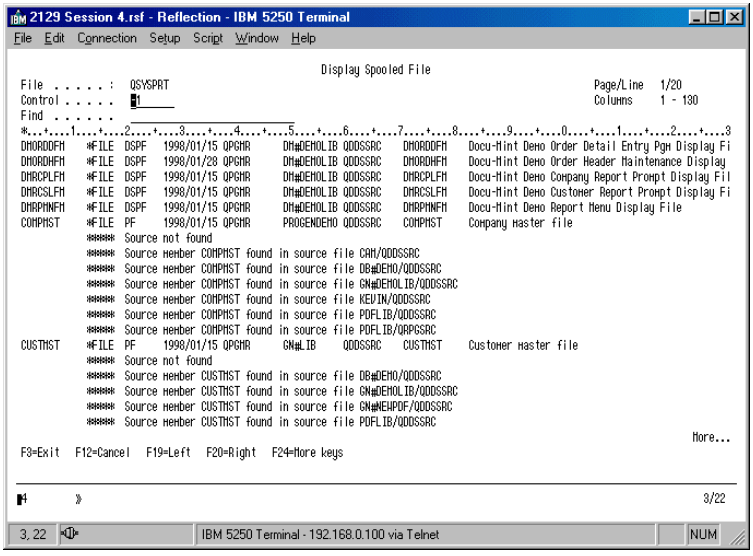
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Spooled File
File . . . . . : QSYSPRT
Page/Line 1/20
Control . . . . . +1
Columns 1 - 130
Find . . . . . _____
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3
DMORDDFM *FILE DSPF 1998/01/15 QPGMR DM#DEMOLIB QDDSSRC DMORDDFM Docu-Mint Demo Order Detail Entry Pgm Display Fi
DMORDHFM *FILE DSPF 1998/01/28 QPGMR DM#DEMOLIB QDDSSRC DMORDHFM Docu-Mint Demo Order Header Maintenance Display
DMRCPLFM *FILE DSPF 1998/01/15 QPGMR DM#DEMOLIB QDDSSRC DMRCPLFM Docu-Mint Demo Company Report Prompt Display Fil
DMRCSLFM *FILE DSPF 1998/01/15 QPGMR DM#DEMOLIB QDDSSRC DMRCSLFM Docu-Mint Demo Customer Report Prompt Display Fi
DMRPMNFM *FILE DSPF 1998/01/15 QPGMR DM#DEMOLIB QDDSSRC DMRPMNFM Docu-Mint Demo Report Menu Display File
COMPMST *FILE PF 1998/01/15 QPGMR PROGENDEMO QDDSSRC COMPMST Company master file
****** Source not found
****** Source member COMPMST found in source file CAM/QDDSSRC
****** Source member COMPMST found in source file DB#DEMO/QDDSSRC
****** Source member COMPMST found in source file GN#DEMOLIB/QDDSSRC
****** Source member COMPMST found in source file KEVIN/QDDSSRC
****** Source member COMPMST found in source file PDFLIB/QDDSSRC
****** Source member COMPMST found in source file PDFLIB/QRPGSRC
CUSTMST *FILE PF 1998/01/15 QPGMR GN#LIB QDDSSRC CUSTMST Customer master file
****** Source not found
****** Source member CUSTMST found in source file DB#DEMO/QDDSSRC
****** Source member CUSTMST found in source file GN#DEMOLIB/QDDSSRC
****** Source member CUSTMST found in source file GN#NEWPDF/QDDSSRC
****** Source member CUSTMST found in source file PDFLIB/QDDSSRC
More...
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-11.

At the top of the report you can see that the reported has printed several entries uncommented. Then when it reached the physical file COMPMST, it reports that the source for this file was not found; however, source *was* found in several other libraries. In cases like this, Docu-Mint not only scans marked libraries to find likely parents for the orphaned objects, it goes through all the libraries on your system.

If you don't require this level of detail, you can use the Print Unused Objects report, described in **Option 5 – Print Unused Objects Report** below.

Option 5 – Print Unused Objects Report

The Print Unused Objects Report (PRTUNUSOBJ) is a list of objects that are not referenced in program calls, menus, or by any other object in a specified library *that has been analyzed*.

Below is an illustration of the panel prompting you for the parameters required to run this report:

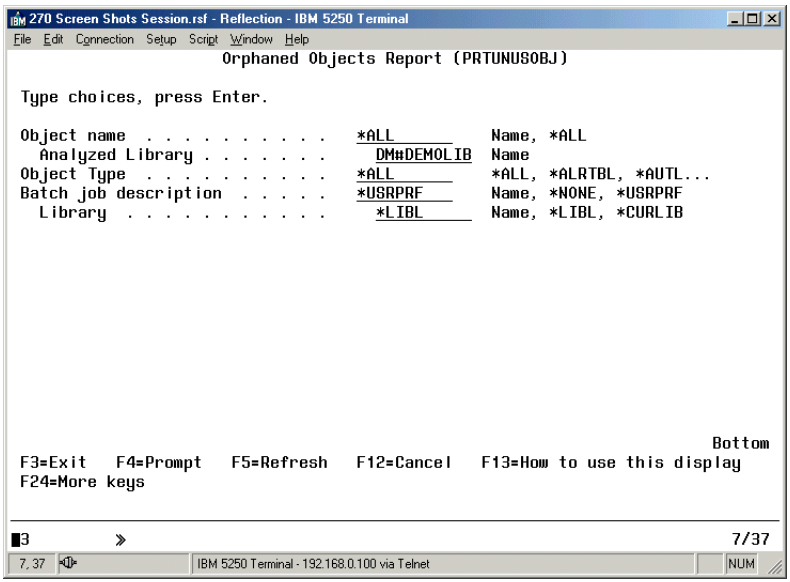
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Orphaned Objects Report (PRTUNUSOBJ)
Type choices, press Enter.
Object name . . . . . *ALL Name, *ALL
Analyzed Library . . . . . DM#DEMOLIB Name
Object Type . . . . . *ALL *ALL, *ALRTBL, *AUTL...
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . *LIBL Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
3
7/37
7, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-12.

Explanation of Panel

Object Name/Library

Enter the name and library of the object that you want to check usage of, or *ALL to run the program over an entire library. If you type a specific object name and library, and that object is in fact used somewhere, the output would report that there were no unused objects satisfying the selected criteria.

Object Type

Enter the type of the object for which you are checking usage. Press F4 on this line to present a list of valid object types. This command also supports ILE objects.

Batch Job Description

Enter you batch job description, or *NONE to run the command interactively.

Here is an illustration of a portion of a Print Unused Objects report:

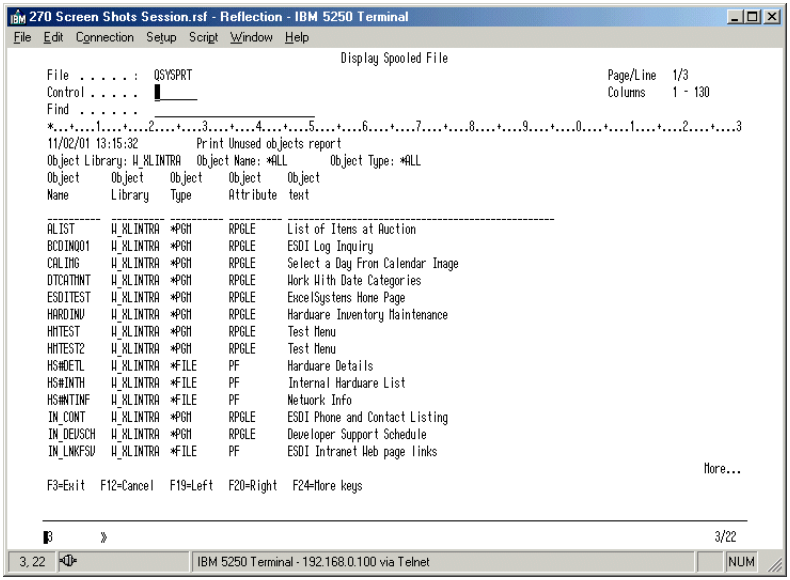
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Spooled File
File . . . . . : QSYSPRT
Page/Line 1/3
Control . . . . .
Columns 1 - 130
Find . . . . . .
11/02/01 13:15:32 Print Unused objects report
Object Library: W_XLINTRA Object Name: *ALL Object Type: *ALL
Object Name
Object Library
Object Type
Object Attribute
Object text
ALIST W_XLINTRA *PGM RPGLE List of Items at Auction
BCDINQ01 W_XLINTRA *PGM RPGLE ESDI Log Inquiry
CALIMG W_XLINTRA *PGM RPGLE Select a Day From Calendar Image
DTCATMNT W_XLINTRA *PGM RPGLE Work With Date Categories
ESDITEST W_XLINTRA *PGM RPGLE ExcelSystems Home Page
HARDINV W_XLINTRA *PGM RPGLE Hardware Inventory Maintenance
HMTEST W_XLINTRA *PGM RPGLE Test Menu
HMTEST2 W_XLINTRA *PGM RPGLE Test Menu
HS#DETL W_XLINTRA *FILE PF Hardware Details
HS#INTH W_XLINTRA *FILE PF Internal Hardware List
HS#NTINF W_XLINTRA *FILE PF Network Info
IN_CONT W_XLINTRA *PGM RPGLE ESDI Phone and Contact Listing
IN_DEVSCH W_XLINTRA *PGM RPGLE Developer Support Schedule
IN_LNKFSV W_XLINTRA *FILE PF ESDI Intranet Web page links
More...
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 6-13.

The report created by the PRTUNUSOBJ lists the object name, library, type, attribute and text for any objects found but not referenced.

In the example above, the report was run over all the objects in the library XL_EXODUS, and the listed components are not called or referenced by any other object in this library.

Note that the output from this command (as from all Docu-Mint reports) needs to interpreted in conjunction with the Error Analysis Report for the same library, which records any errors encountered by STRLIBANZ when analyzing a library. For example, in the output above, the program ZSETDFTUSR is called by the ZSETDFTUSR command, which could not be documented because the user running the original analysis wasn't authorized to that object.

CHAPTER 7

Menu DM#FLD: Field Cross Reference

The **Field Cross Reference Menu** allows you to select from several reports that document field usage in your analyzed libraries. From this menu you can also access the extended field analysis functions, which are described separately in Part IV of this guide.

The field cross reference reports described in this chapter are useful in instances where you want to know what programs use each field in a selected file, or print a list of all the fields in a set of files. If you are trying to isolate and list only fields that match certain criteria across a set of files and programs, you can build an extended field analysis, which is described in Section IV, **Extended Field Analysis Functions**.

You can present the **Field Cross Reference Menu** using option 3 from the Docu-Mint Main Menu, or by pressing F15=Field Menu from the **Work with System Libraries** panel.

Below is an illustration of menu DM#FLD:

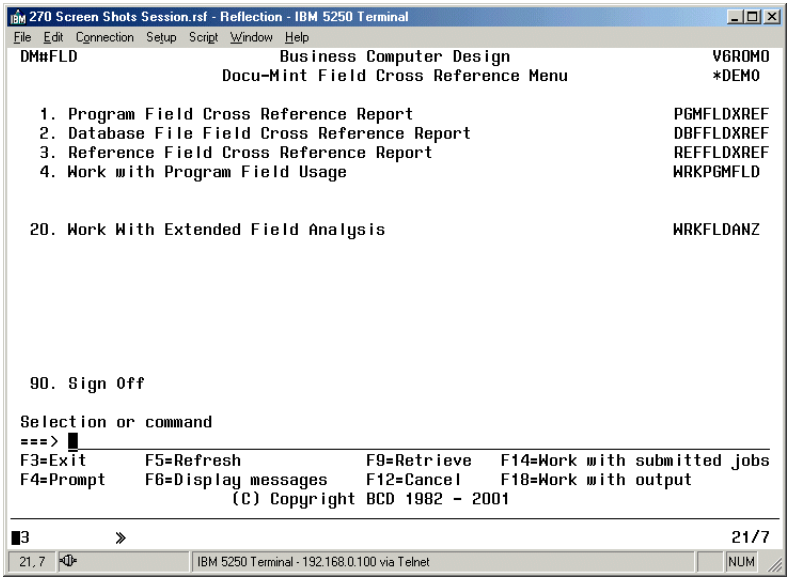

Figure 7-1.

Select the option for the report you want, or press F3 to return to the **Main Menu**.

The following sections of this chapter describe each of these reports in detail.

Option 1 – Program Field Cross Reference Report

The **Program Field Cross Reference** report produces a listing of field usage within RPG or ILE/RPG programs. When running this report you can cross reference up to ten sets of files across programs in up to ten separate RPG source files.

For each field in the file(s) specified the report will list the name of the RPG program(s) referencing the field (or *NONE if no programs use the field), along with a mnemonic indicating how the field is used within that particular program (such as ADD, INP, etc.).

Below is an illustration of the panel that is presented to prompt you for the parameters to run a program field cross reference report:

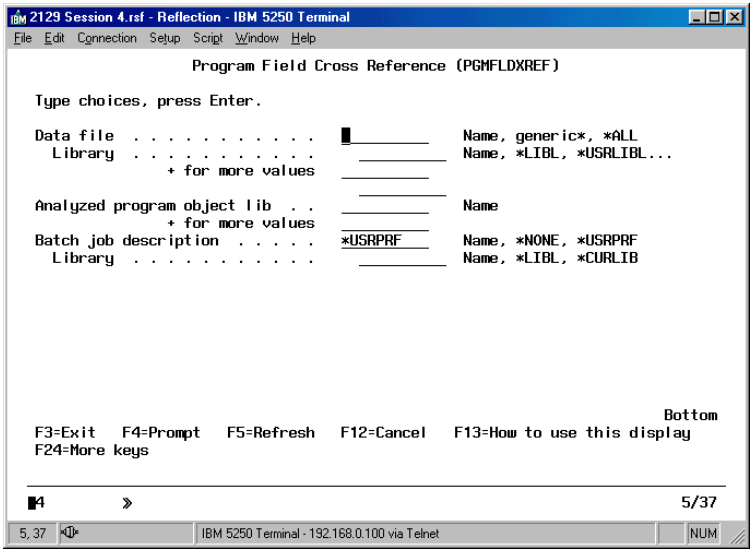
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Program Field Cross Reference (PGMFLDXREF)
Type choices, press Enter.
Data file . . . . . Name, generic*, *ALL
Library . . . . . Name, *LIBL, *USRLIBL...
+ for more values
Analyzed program object lib . . Name
+ for more values
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
F4
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 7-2.

You can enter up to 10 files or sets of files to document against a corresponding program or set of programs which will be analyzed for field usage of the specified files. To add additional files, type a '+' sign on the 'for more values' prompt and press Enter, and another panel will be presented at which you can type them in.

Press F4 on any of the parameters to present a list of valid options. For a complete description of these parameters, please refer to Section V, **Docu-Mint Command Reference**.

Below is a section from a program field cross reference report, over the demo library DM#DEMOLIB:

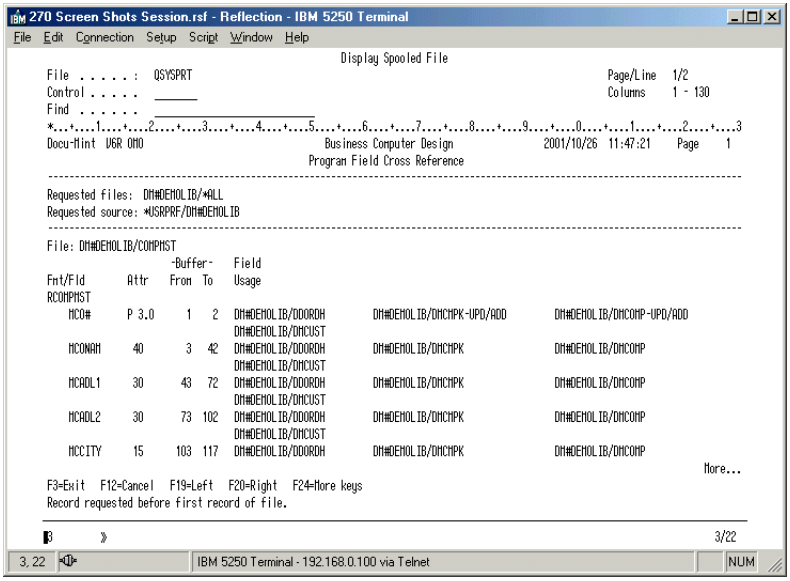
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Spooled File
File . . . . . : QSYSPRT
Page/Line 1/2
Control . . . . . _____
Columns 1 - 130
Find . . . . . _____
Docu-Mint V6R 0M0 Business Computer Design 2001/10/26 11:47:21 Page 1
Program Field Cross Reference
Requested files: DM#DEMOLIB/*ALL
Requested source: *USRPRF/DM#DEMOLIB
File: DM#DEMOLIB/COMPMST
Fmt/Fld Attr From To Usage
RCOMPMST
MCO# P 3.0 1 2 DM#DEMOLIB/DDORDH DM#DEMOLIB/DMCMPK-UPD/ADD DM#DEMOLIB/DMCOMP-UPD/ADD
DM#DEMOLIB/DMCUST
MCONAM 40 3 42 DM#DEMOLIB/DDORDH DM#DEMOLIB/DMCMPK DM#DEMOLIB/DMCOMP
DM#DEMOLIB/DMCUST
MCADL1 30 43 72 DM#DEMOLIB/DDORDH DM#DEMOLIB/DMCMPK DM#DEMOLIB/DMCOMP
DM#DEMOLIB/DMCUST
MCADL2 30 73 102 DM#DEMOLIB/DDORDH DM#DEMOLIB/DMCMPK DM#DEMOLIB/DMCOMP
DM#DEMOLIB/DMCUST
MCCITY 15 103 117 DM#DEMOLIB/DDORDH DM#DEMOLIB/DMCMPK DM#DEMOLIB/DMCOMP
More...
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys
Record requested before first record of file.
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 7-3.

Explanation of Panel

In the sample above, we are showing the top of the report, with the entries for the file COMPMST showing. The details include a list of the fields in that file, followed by their attributes and buffer positions. The Field Usage columns include program name/lib references along with the actual usage of the field in that program.

The usage values are as follows:

Usage Values	Description
Inp	Used in a file's input specification.
Out	Used in a file's output specification.
ModD	Modified Directly. Used in result field of calculation specification.
Ref	Referenced. Used as factor 2 of *LIKE DEFN.
Use	Used in factor 1 or factor 2 or as index to array in result field.

You can also press F20 to move the page to the right, and display any additional Field Usage entries. Press F19 to return to the leftmost page.

Option 2 – Database File Field Cross Reference Report

The **Database File Field Cross Reference** report lists field definitions within externally described files. The report will list, for all field names requested, a cross reference list of the fields and all files containing each field.

When running this report, you can specify up to 10 files, or sets of files. The fields in these files will then be cross referenced against the fields specified in the Field name parameter. You can enter up to 10 field names to check for.

When you selection the option to run this report, the panel below is first presented:

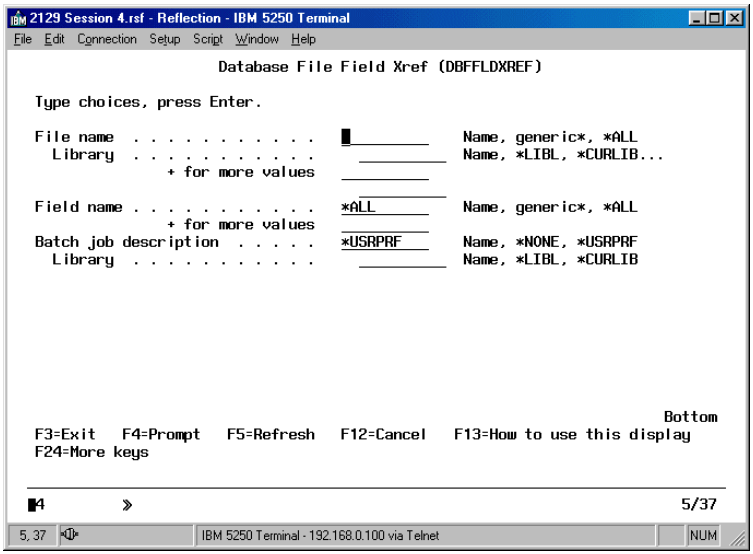
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Database File Field Xref (DBFFLDXREF)
Type choices, press Enter.
File name . . . . . Name, generic*, *ALL
Library . . . . . Name, *LIBL, *CURLIB...
+ for more values
Field name . . . . . *ALL Name, generic*, *ALL
+ for more values
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 7-4.

Refer to Section V, **Docu-Mint Command Reference** for a complete description of all the DBFFLDXREF parameters.

On the next page is a sample of the output from this command.

This illustration below is of a report over the library LG#LIB (a phone log application), looking for the field LDLODT (log date):

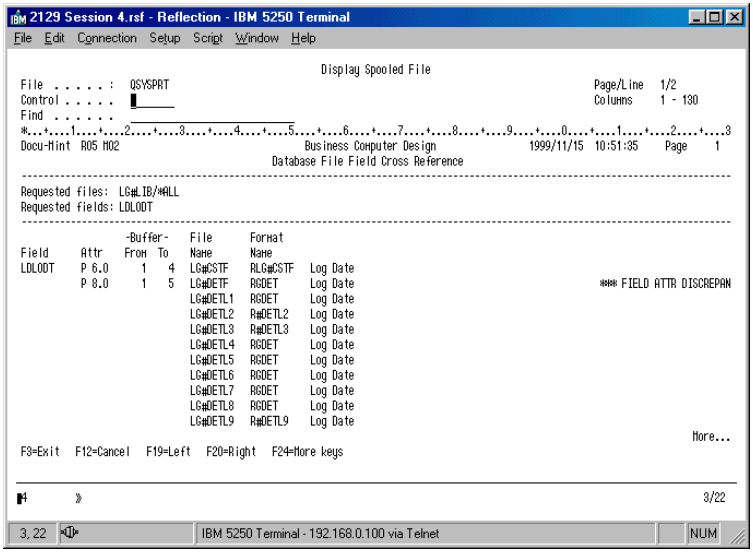
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Display Spooled File
File . . . . . : QSYSPRT
Control . . . . .
Find . . . . . .
Page/Line 1/2
Columns 1 - 130
Docu-Mint R05 M02
Business Computer Design
1999/11/15 10:51:35 Page 1
Database File Field Cross Reference
Requested files: LG#LIB/*ALL
Requested fields: LDLODT
Field Attr -Buffer- From To File Name Format Name
LDLODT P 6.0 1 4 LG#CSTF RLG#CSTF Log Date
P 8.0 1 5 LG#DETF RGDET Log Date *** FIELD ATTR DISCREPAN
LG#DETL1 RGDET Log Date
LG#DETL2 R#DETL2 Log Date
LG#DETL3 R#DETL3 Log Date
LG#DETL4 RGDET Log Date
LG#DETL5 RGDET Log Date
LG#DETL6 RGDET Log Date
LG#DETL7 RGDET Log Date
LG#DETL8 RGDET Log Date
LG#DETL9 R#DETL9 Log Date
More...
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys
3/22
3, 22
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 7-5.

The top of the report displays the criteria used to execute it, and below that is the report listing. In this case only one field was selected, LDLODT.

In the list portion of the report, the first columns display the field names, attributes and buffer positions. Next to that is the list of files in which the field appears, and the format name. The last column is the field description.

The report details begin with the physical files and logical views where this field is found, and the following pages include the display files in LG#LIB where it was found, along with the format.

Notice that at right it has also flagged a discrepancy in the field attributes or LDLODT in the file LG#DETF.

Option 3 – Reference Field Cross Reference Report

The **Reference Field Cross Reference** report produces a list, sorted by reference field name, showing the fields from other files on the system that are based on the reference field selected.

When you choose this menu option from DM#FLD, the panel below is presented:

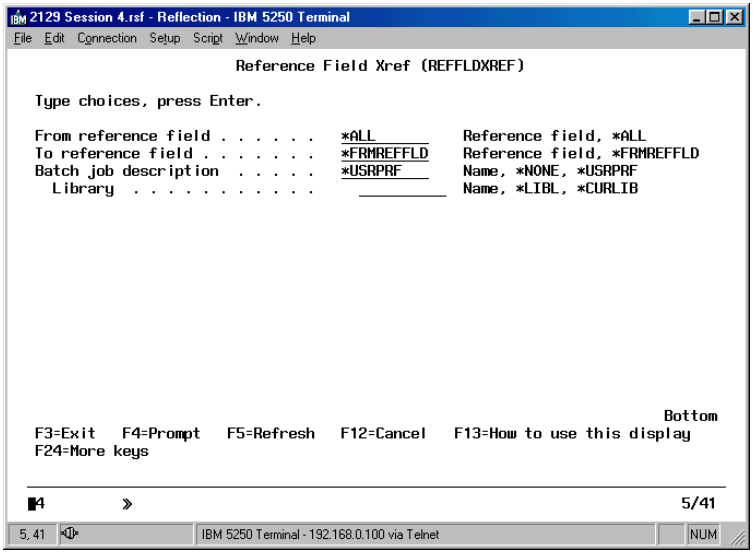
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Reference Field Xref (REFFLDXREF)
Type choices, press Enter.
From reference field . . . . . *ALL Reference field, *ALL
To reference field . . . . . *FRMREFFLD Reference field, *FRMREFFLD
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4
5/41
5, 41
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 7-6.

To generate the reference field cross reference report, enter start and end values to specify the range of reference fields to be included in the report.

Below is an illustration of the report output:

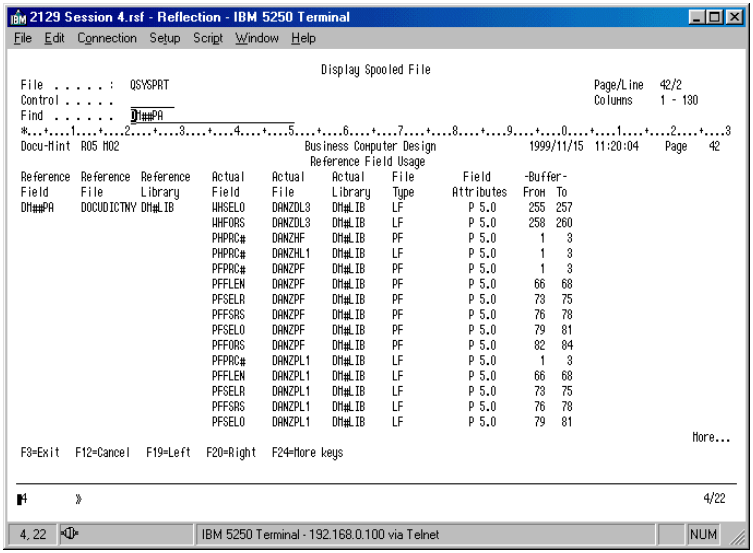

Figure 7-7.

This shows the listings for the reference field DM##PA, from the reference file DOCUDICTNY. The report shows each file that references the field, as well as the actual field name in that file.

Option 4 – Work with Program Field Usage

Select the **Work with Program Field Usage** option to present a list interface to field usage within RPG programs. From this list you can perform operations (on the programs) such as change, copy, delete, display and rename.

Here is an example of the results of running this command, and positioning the list to the field PDPGM:

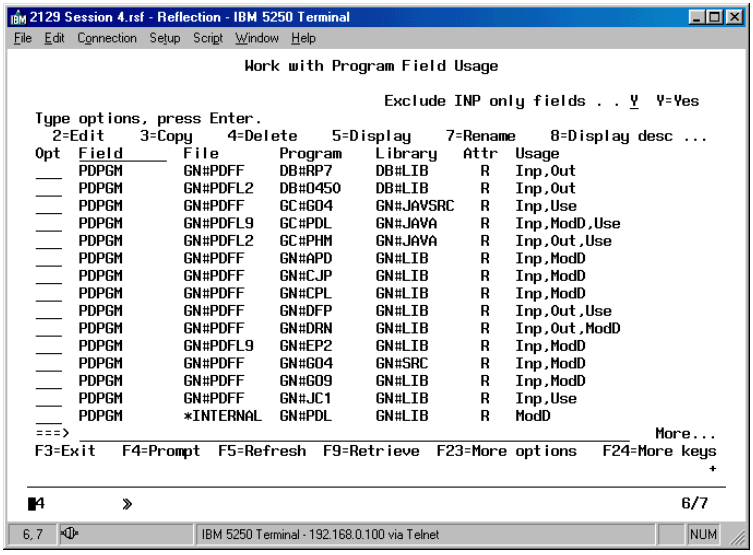
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work with Program Field Usage
Exclude INP only fields . . Y Y=Yes
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename 8=Display desc ...
Opt Field File Program Library Attr Usage
PDPGM GN#PDFF DB#RP7 DB#LIB R Inp,Out
PDPGM GN#PDFL2 DB#O450 DB#LIB R Inp,Out
PDPGM GN#PDFF GC#G04 GN#JAVSRC R Inp,Use
PDPGM GN#PDFL9 GC#PDL GN#JAVA R Inp,ModD,Use
PDPGM GN#PDFL2 GC#PHM GN#JAVA R Inp,Out,Use
PDPGM GN#PDFF GN#APD GN#LIB R Inp,ModD
PDPGM GN#PDFF GN#CJP GN#LIB R Inp,ModD
PDPGM GN#PDFF GN#CPL GN#LIB R Inp,ModD
PDPGM GN#PDFF GN#DFP GN#LIB R Inp,Out,Use
PDPGM GN#PDFF GN#DRN GN#LIB R Inp,Out,ModD
PDPGM GN#PDFL9 GN#EP2 GN#LIB R Inp,ModD
PDPGM GN#PDFF GN#G04 GN#SRC R Inp,ModD
PDPGM GN#PDFF GN#G09 GN#LIB R Inp,ModD
PDPGM GN#PDFF GN#JC1 GN#LIB R Inp,Use
PDPGM *INTERNAL GN#PDL GN#LIB R ModD
===> More...
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F23=More options F24=More keys
4 6/7
6, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 7-8.

Using the Work with Program Field Usage Display

This section describes the various elements of the **Work with Program Field Usage** list display.

Field

To position the list, type the beginning characters (or more) of the new field name and press Enter. After positioning the list to that field, the prompt will revert to it's default value of 'Field'.

File

This is the name of the file the field was found in. This value will be *ALL unless the field was found in an internally described file's input or output specification.

Program/Library

The name of the program the field is used in.

Attr
A one character field designating the program attribute.

Usage
Indicates how the field is used in the program. Below is a list of the values that may be specified for this entry:

Usage Values	Description
Inp	Used in a file's input specification.
Out	Used in a file's output specification.
ModD	Modified Directly. Used in result field of calculation specification.
Ref	Referenced. Used as factor 2 of *LIKE DEFN.
Use	Used in factor 1 or factor 2 or as index to array in result field.

Exclude *INP Only Fields
This value (at the upper right of the panel) allows you to filter our fields for which the usage is *INP only. By default this value is set to Y=Yes.

Function Keys
F21=Print list
Presents a window allowing you to specify a From and To field names to print a report of the information shown on the display. Special values *FIRST and *LAST may be used in the From/To prompts. The 'To field name' prompt also recognizes an asterisk (*) in the last position as a request to print the report through all items beginning with the specified characters.

The report is created with the following spool file attributes:

Spooled file: FILE(QSYSPRT)

User data: USRDTA('WrkPgmFld)

Option 20 – Work with Extended Field Analysis

Docu-Mint's **Extended Field Analysis** features provide the functionality to analyze and identify specific file fields, determine what programs reference and use these file fields, and document the programs which will require changes. The extended field analysis utilizes the file and program information derived from the Docu-Mint library analysis.

The panels and functions presented when you select this option are described in Section IV, **Extended Field Analysis Functions**.

CHAPTER 8

Menu DM#UTL: Docu-Mint Utilities

The Docu-Mint utilities include options to configure the software, update the internal files and format your source members. To work with the Docu-Mint utilities, select option 4 from the Docu-Mint Main Menu, or press F16=Utility Menu from the **Work with System Libraries** panel.

Option 4 presents menu DM#UTL, illustrated below:

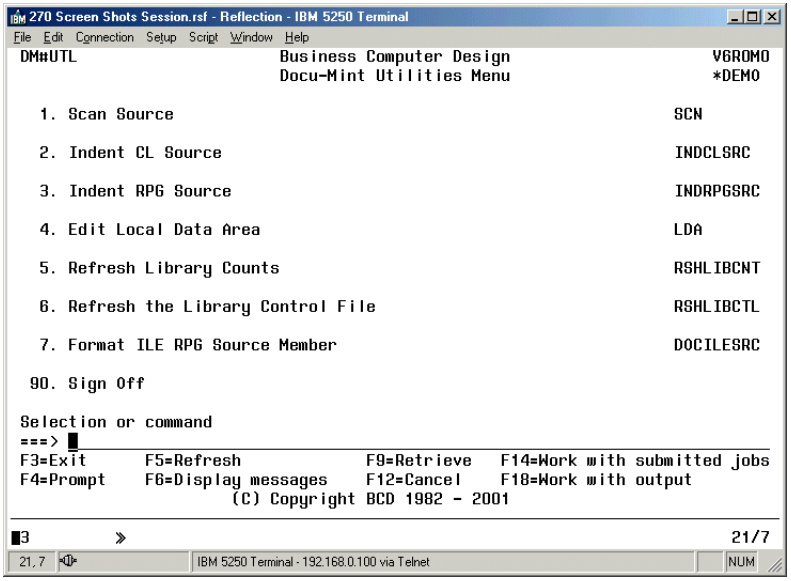
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#UTL Business Computer Design V6ROMO
Docu-Mint Utilities Menu *DEMO
1. Scan Source SCN
2. Indent CL Source INDCLSRC
3. Indent RPG Source INDRPGSRC
4. Edit Local Data Area LDA
5. Refresh Library Counts RSHLIBCNT
6. Refresh the Library Control File RSHLIBCTL
7. Format ILE RPG Source Member DOCILESRC
90. Sign Off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 8-1.

The remainder of this chapter describes each of these utilities in detail. Please refer to Section V, **Docu-Mint Command Reference** for a complete description each of the parms for the above commands.

The RSHLIBCNT and RSHLIBCTL (options 5 and 6) options may also be accessed from the menu DM#LIB, and are described at the end of Chapter 5, **Menu DM#LIB: Library Selection and Analysis**, as well as in Section V, **Docu-Mint Command Reference**.

Option 1 – Scan Source

The **Scan Source** option (SCN command) produces a report of character string usage within source members. Flexible command options provide a means of specifying both how to perform the search (such as whether or not to ignore case and the ability to specify a wild card character) as well as what source to search (generic support is provided for source file name, source library name, source member name and source type). A unique feature of the command allows the user to request that strings found within comments not appear on the report.

The options you are prompted for when you run this command are illustrated below:

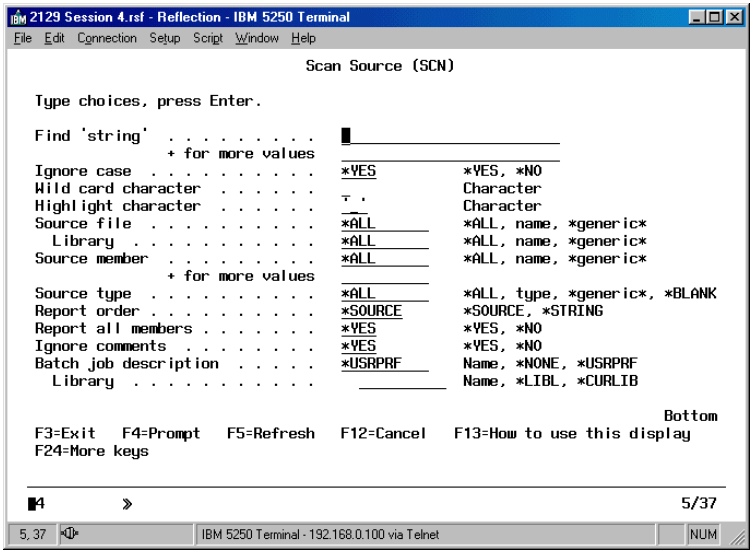
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Scan Source (SCN)
Type choices, press Enter.
Find 'string' . . . . . .
+ for more values
Ignore case . . . . . *YES *YES, *NO
Wild card character . . . . . Character
Highlight character . . . . . Character
Source file . . . . . *ALL *ALL, name, *generic*
Library . . . . . *ALL *ALL, name, *generic*
Source member . . . . . *ALL *ALL, name, *generic*
+ for more values
Source type . . . . . *ALL *ALL, type, *generic*, *BLANK
Report order . . . . . *SOURCE *SOURCE, *STRING
Report all members . . . . . *YES *YES, *NO
Ignore comments . . . . . *YES *YES, *NO
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4 5/37
5, 37 IBM 5250 Terminal - 192.168.0.100 via Telnet NUM

Figure 8-2.

Explanation of Options

Enter up to 10 text strings to search for; each string may contain up to 25 characters.

You can also specify a wild card character, which has the effect that when this character appears within the find string, any character in the source will be considered a match.

You must also enter values for the source file(s)/member(s) to search, and the source type.

For a complete description of all the parameters of the SCN command and their valid values, please refer to Section V, **Docu-Mint Command Reference**.

Option 2 – Indent CL Source

The **Indent CL Source** option produces an indented listing of a CLP source member. The list will identify related DO/ENDDO commands, connecting them with a separator character, and indenting any commands nested within the DO/ENDDO pair.

When you run the INDCLSRC command, the panel below is presented:

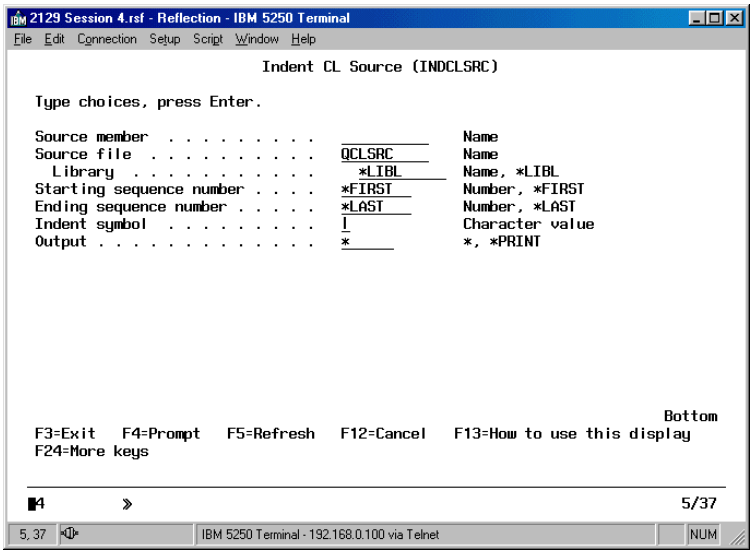
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Indent CL Source (INDCLSRC)
Type choices, press Enter.
Source member . . . . . _____ Name
Source file . . . . . QCLSRC Name
Library . . . . . *LIBL Name, *LIBL
Starting sequence number . . . . *FIRST Number, *FIRST
Ending sequence number . . . . . *LAST Number, *LAST
Indent symbol . . . . . | Character value
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 8-3.

Type a CL source member and file name. If you wish, you can also specify starting and ending sequence number, and add your own indention symbol.

Below is a sample of the output from this command:

```
0565.00          | IF       (&SELECT *GE '1' *AND &SELECT *LE '9' +
0566.00          | *AND &CMDREM ¬=' ') THEN(DO)
0567.00          | | CHGVAR     &IN90   '1'
0568.00          | | SNDPGMMSG  MSGID(GN#0013) MSGF(GN#MSGF) TOPGMQ(*SAME) +
0569.00          | | KEYVAR(&MSGKEY) /* Invalid option. */
0570.00          | | GOTO       $DSPMSGS
0571.00          | ENDDO
0572.00          |
0573.00          | /* DJK 020196: OPT 4 IS VALID ONLY IF IND 58 IS ON (GN#CSLIB AHEAD OF GN#LIB)*/
0574.00          | IF     (&IN58 *NE '1') THEN(DO)
0575.00          | | IF       (&SELECT *EQ '4')  THEN(DO)
0576.00          | | | CHGVAR     &IN90   '1'
0577.00          | | | SNDPGMMSG  MSGID(GN#0013) MSGF(GN#MSGF) TOPGMQ(*SAME) +
0578.00          | | | KEYVAR(&MSGKEY) /* Invalid option. */
0579.00          | | | GOTO       $DSPMSGS
0580.00          | | ENDDO
0581.00          | ENDDO
```

Figure 8-4.

Option 3 – Indent RPG Source

The **Indent RPG Source** command produces an indented listing of an RPG or RPGLE source member. The list will identify related DOxxx/END[DO], IFxx/END[IF] and SELEC/WHxx/END[SL] operation codes, connecting them with a separator character, and indenting any statements within the structured code.

The panel below is presented when you run the INDRPGSRC command:

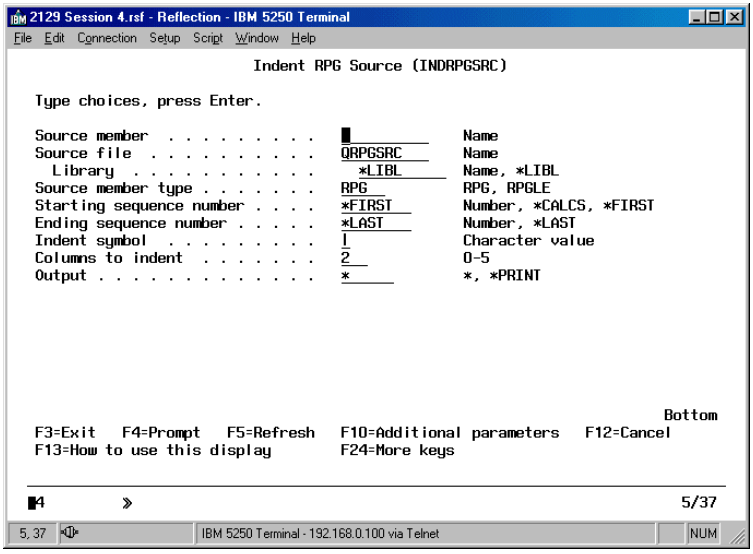
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Indent RPG Source (INDRPGSRC)
Type choices, press Enter.
Source member . . . . . _____ Name
Source file . . . . . QRPGSRC Name
Library . . . . . *LIBL Name, *LIBL
Source member type . . . . . RPG RPG, RPGLE
Starting sequence number . . . . *FIRST Number, *CALCS, *FIRST
Ending sequence number . . . . . *LAST Number, *LAST
Indent symbol . . . . . | Character value
Columns to indent 2 0-5
Output . . . . . * *, *PRINT
Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 8-5.

Enter the source member and file/lib information for the RPG or RPGLE source member. You can also specify starting and ending sequence numbers if you want, as well as the indention symbol and number of columns to indent.

When you display the output to screen, an additional option HILITE is presented after you first press Enter, allowing you specify whether you would like to highlight the comments.

When you choose to print the output, the additional option PAGEBRK is presented, allowing you to specify whether to print page headings on each page, or only at the beginning of the report. Generally, the printout is easier to read if the headings are only included at the beginning.

Below is a sample of the output from this command, from a subfile option error handling routine in the program DDORDD in the demo library:

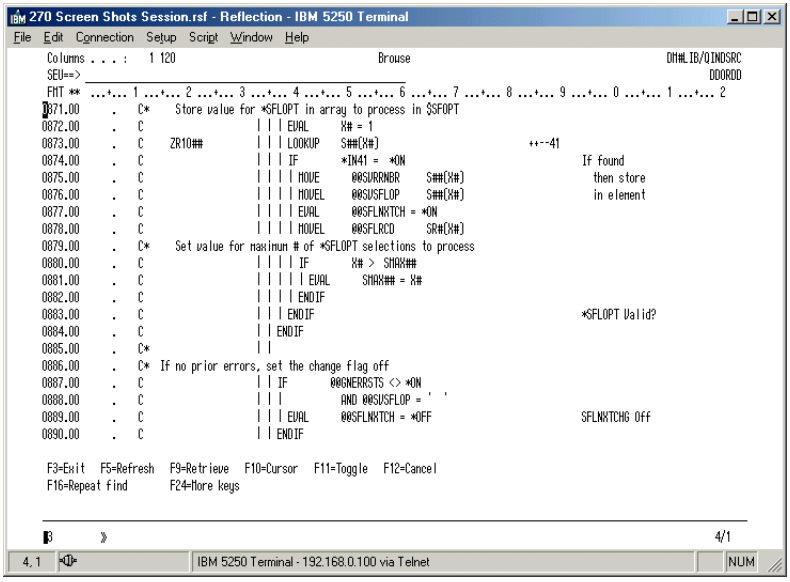
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Columns . . . : 1 120 Brouse DM#LIB/QINDSRC
SEU==> DDORDD
FMT ** ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9 ...+... 0 ...+... 1 ...+... 2
0871.00 . C* Store value for *SFLOPT in array to process in $SFOPT
0872.00 . C | | EVAL X# = 1
0873.00 . C ZR10## | | LOOKUP S##(X#) ++--41
0874.00 . C | | IF *IN41 = *ON If found
0875.00 . C | | | MOVE @@SURRNBR S##(X#) then store
0876.00 . C | | | MOVEL @@SUSFLOP S##(X#) in element
0877.00 . C | | | EVAL @@SFLNXTCH = *ON
0878.00 . C | | | MOVEL @@SFLRCD SR#(X#)
0879.00 . C* Set value for maximun # of *SFLOPT selections to process
0880.00 . C | | | IF X# > SMAX##
0881.00 . C | | | | EVAL SMAX## = X#
0882.00 . C | | | ENDIF
0883.00 . C | | ENDIF *SFLOPT Valid?
0884.00 . C | | ENDIF
0885.00 . C* | |
0886.00 . C* If no prior errors, set the change flag off
0887.00 . C | | IF @@GNERRSTS <> *ON
0888.00 . C | | AND @@SUSFLOP = ' '
0889.00 . C | | EVAL @@SFLNXTCH = *OFF SFLNXTCHG Off
0890.00 . C | | ENDIF
F3=Exit F5=Refresh F9=Retrieve F10=Cursor F11=Toggle F12=Cancel
F16=Repeat find F24=More keys
4/1
4, 1
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 8-6.

In this example the character '|' is used to mark the indention of the structures.

Option 4 – Edit Local Data Area

The **Edit Local Data Area** option (LDA command) allows you to view the LDA contents and modify the local data area and job switches from a display file, rather than making a blind change through the Change Data Area command. The LDA command is easy to invoke from a command line and can be easily called from a program as a useful debugging tool.

When you select the LDA option, a panel similar to the one below is presented:

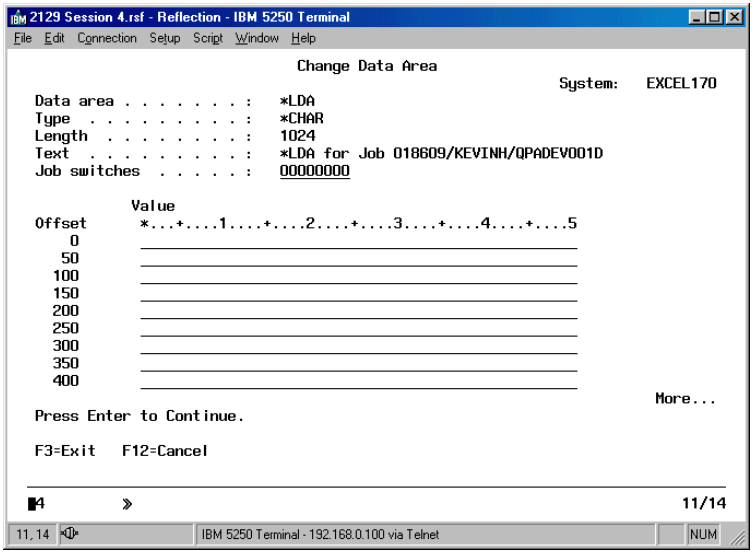

Figure 8-7.

Using the Edit Local Data Area Display

The display is similar to the DSPDTAARA display. The two main differences are the addition of a field showing the current job's job switches and the ability to edit the displayed contents of the job's local data area.

To change the job switches type a 0 or 1 over the existing switch values.

To edit the local data area, type over the existing characters. Use the Roll Up/Down keys to change the offset into the *LDA. Non-displayable characters will show up in the *LDA display as solid blocks. As long as you do not change these characters or their position (by inserting or deleting characters) in the *LDA, their true values will not be altered.

When you are finished making your changes, press Enter to accept these changes.

To cancel any changes that you have made press F3=Exit or F12=Cancel.

Options 5 & 6 – Refresh Library Control Files

The RSHLIBCNT and RSHLIBCTL commands are also accessible from the menu DM#LIB, and are documented in Chapter 2, **The Quick Start Exercise**, as well as in Section V, **Docu-Mint Command Reference**.

Option 7 – Format ILE RPG Source Member

The option to format an ILE RPG source member is used to enhance ILE source code. Typically, you will do this with source code that has recently been converted to ILE using IBM's CVTRPGSRC command. When you run DOCILESRC over an ILE source member, the following changes are made:

- Field definitions are consolidated into D-Specs.
- Comment lines are converted to high intensity.
- IF and DO structures are documented.

If you have any concerns about the changes made to your source member, you can also select an option to copy the selected member before executing the changes.

Below is an illustration of the panel presented when you select this option:

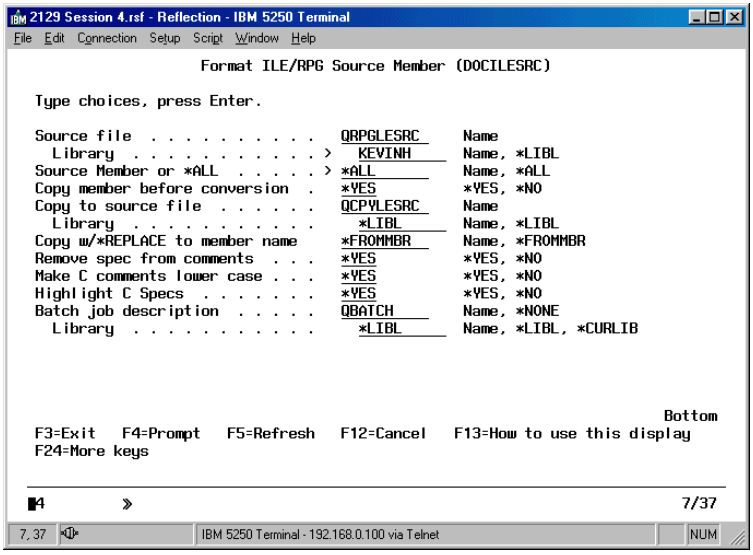
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Format ILE/RPG Source Member (DOCILESRC)
Type choices, press Enter.
Source file . . . . . QRPGLESRC Name
Library . . . . . > KEVINH Name, *LIBL
Source Member or *ALL . . . . . > *ALL Name, *ALL
Copy member before conversion . *YES *YES, *NO
Copy to source file . . . . . QCPYLESRC Name
Library . . . . . *LIBL Name, *LIBL
Copy w/*REPLACE to member name *FROMMBR Name, *FROMMBR
Remove spec from comments . . . *YES *YES, *NO
Make C comments lower case . . . *YES *YES, *NO
Highlight C Specs . . . . . *YES *YES, *NO
Batch job description . . . . . QBATCH Name, *NONE
Library . . . . . *LIBL Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
7/37
7, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 8-8.

Type the name of your source file and library, and the source member to format. You can also use the special value *ALL to format all source members in the selected file.

Copy member before conversion

Select this option if you want to make a backup copy of the source member to be converted, before executing the conversion. If you select *YES for this option, when you press Enter an additional option is presented, allowing you to specify a member name, source file and library to copy to.

Remove spec from comments

Set this option to *YES to remove the spec (C, D, etc.) from comment lines.

Make C comments lower case

This option allows you to change all your C spec comments to lower case.

Highlight C specs

Use this option to indicate that you want to highlight the C specs in your source member(s).

CHAPTER 9

Menu DM#CFG: Docu-Mint Configuration

The **Docu-Mint Configuration Menu** includes several options related to configuring how Docu-Mint works. To work with these options, select option 5 from the Docu-Mint Main Menu, or press F17=Config Menu from the **Work with System Libraries** panel.

Below is an illustration of the menu DM#CFG:

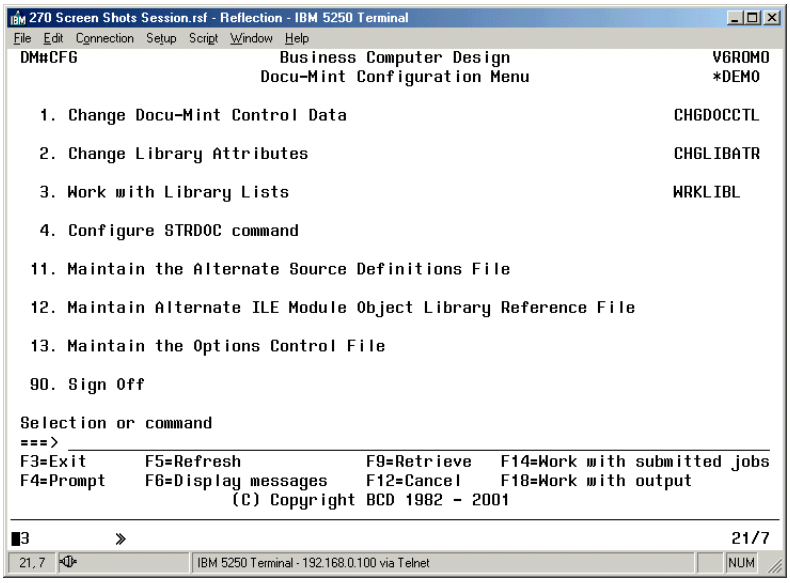
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#CFG Business Computer Design V6ROMO
Docu-Mint Configuration Menu *DEMO
1. Change Docu-Mint Control Data CHGDOCCTL
2. Change Library Attributes CHGLIBATR
3. Work with Library Lists WRKLIBL
4. Configure STRDOC command
11. Maintain the Alternate Source Definitions File
12. Maintain Alternate ILE Module Object Library Reference File
13. Maintain the Options Control File
90. Sign Off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 9-1.

From here you can select options to run the commands CHGDOCCTL, CHGLIBATR, WRKLIBL and CFGSTRDOC. You can also use options 11 and 12 to maintain the two alternate reference files, for source and ILE module libs respectively. Finally, from here you can also maintain the Options Control File.

Option 1 – Change Docu-Mint Control Data

Use this command to change the default company setting that is used in the report headers, and also to turn on/off the splash screen that initially comes up before the **Main Menu** is presented. The splash screen displays the phone and fax numbers for BCD and BCD Technical Support.

When you select the option to run the CHGDOCCTL command, this panel is presented:

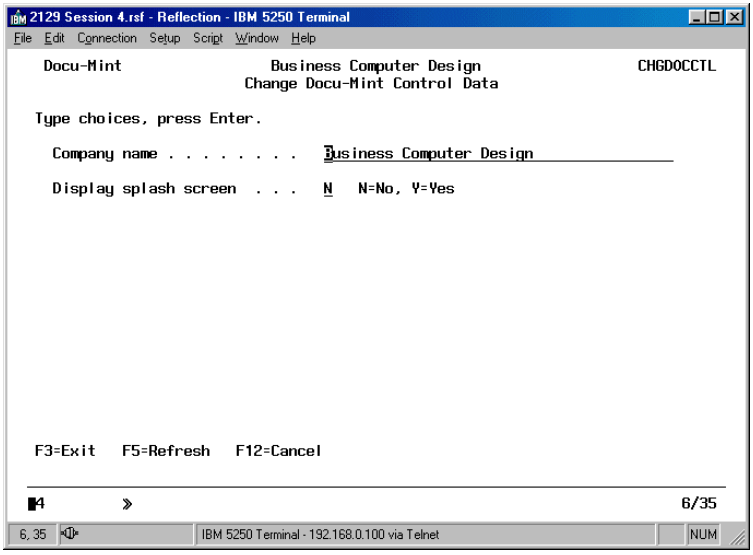
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Business Computer Design
CHGDOCCTL
Change Docu-Mint Control Data
Type choices, press Enter.
Company name . . . . . Business Computer Design
Display splash screen . . . N N=No, Y=Yes
F3=Exit F5=Refresh F12=Cancel
4
6/35
6, 35
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 9-2.

Company Name

Enter your company name. Be sure the company name is left-justified. Docu-Mint will center the company name on the appropriate displays and reports.

Display Splash Screen

Specify whether or not you want the annoying "Welcome to Docu-Mint" window to appear each time you start Docu-Mint with the STRDOC command. This field accepts a value of N (suppress the splash screen) or Y (enable the splash screen).

Please note that the splash screen may only be suppressed if you are running under a live (not demo) version of Docu-Mint.

Option 2 – Change Library Attributes

Use the Change Library Attributes option to change Docu-Mint specific attributes associated with a library name. This command is mainly used for creating groups of libraries for analysis, and setting whether you want to delete internal master file records for libraries that are not found in subsequent analyses. Refer to Section V, **Docu-Mint Command Reference** for a complete explanation of each parameter.

When you run the CHGLIBATR command, a panel similar to this one is presented:

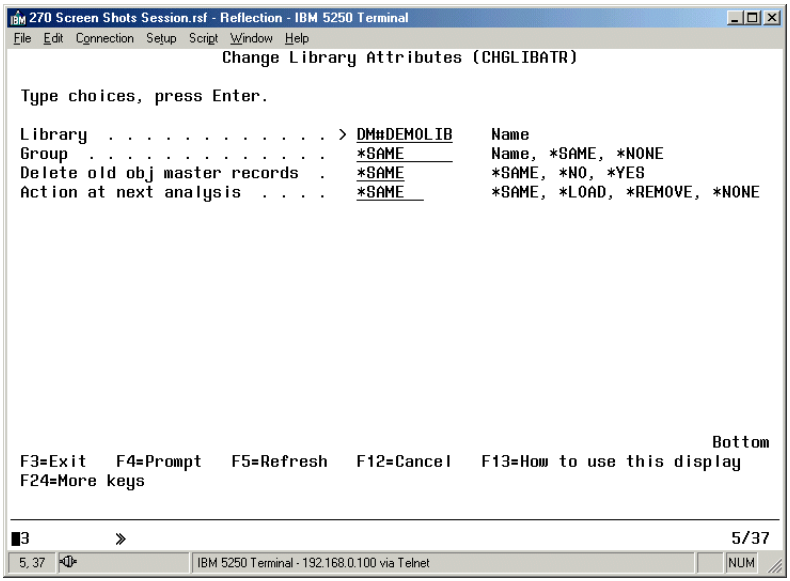
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Change Library Attributes (CHGLIBATR)
Type choices, press Enter.
Library . . . . . > DM#DEMOLIB Name
Group . . . . . *SAME Name, *SAME, *NONE
Delete old obj master records . *SAME *SAME, *NO, *YES
Action at next analysis . . . . *SAME *SAME, *LOAD, *REMOVE, *NONE
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
3
5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 9-3.

Enter a library name for which to change the Docu-Mint settings and your choices, then press Enter.

Setting up Library Groups

When you run the STRLIBANZ command to analyze a library, one of the options available is to enter a library group name instead of a single lib. This allows you to simultaneously analyze a specific set of libraries rather than having to submit separate jobs for each one. In order to create a group of libraries, all you need to do is run the CHGLIBATR command for each of the libraries, and ensure that you specify the same group name.

Library groups can also be maintained from the **Work with Library Groups** panel, which you can get to by pressing F6 from the **Work with System Libraries** screen.

Option 3 – Work with Library Lists

The **Work with Library Lists** command provides you with a list interface to named library lists. Library lists are used by the Work with Used Objects command (WRKUSEOBJ or WUO), to restrict the scope of your results. Each named library list consists of the following:

- A name and description.
- A current library and up to 15 system libraries.
- Up to 25 user libraries.

When you run the WRKLIBL command, a panel similar to this one is presented:

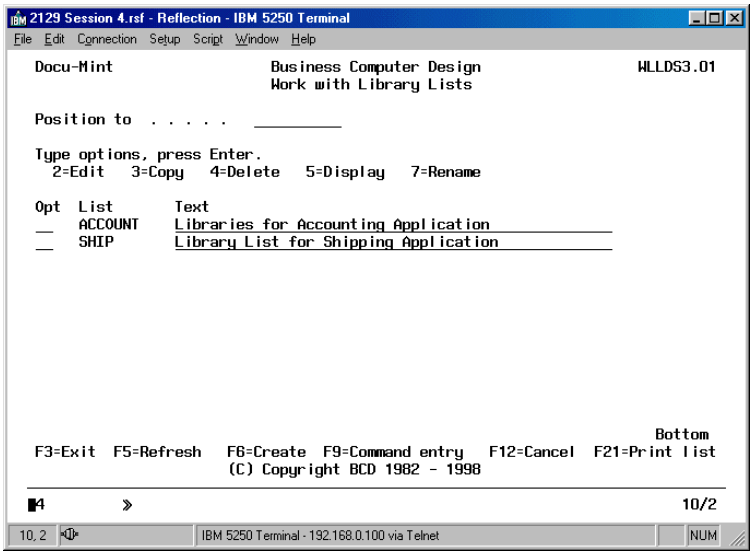
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint
Business Computer Design
Work with Library Lists
WLLDS3.01
Position to . . . . . _____
Type options, press Enter.
2=Edit 3=Copy 4=Delete 5=Display 7=Rename
Opt List Text
ACCOUNT Libraries for Accounting Application
SHIP Library List for Shipping Application
Bottom
F3=Exit F5=Refresh F6=Create F9=Command entry F12=Cancel F21=Print list
(C) Copyright BCD 1982 - 1998
10/2
10, 2
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 9-4.

Explanation of Panel

This screen shows a list of any library lists that have been defined, and their text descriptions. From this display you can create, edit, copy, delete, display or rename named library lists. You can press F21 from this panel to print a report of all your library lists and libraries. The Library List report is created with the following spool file attributes:

- Spooled file: FILE(QSYSPRT)
- User data: USRDTA('WrkLibl')

The following sections describe how to create and maintain your lists.

Creating New Library Lists

Press F6 from the **Work with Library Lists** panel to present the following window, allowing you to key in a new library list to be created.

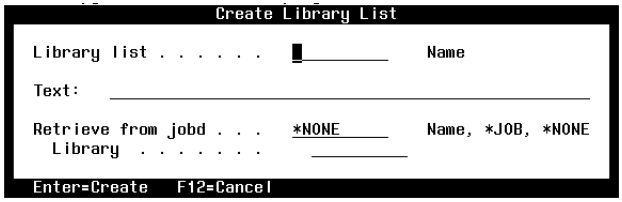

Figure 9-5.

Library List

Type a Library List name and text description, then press Enter to go on to the **Edit Library List** display, described below. If you enter the name of an existing library list, it will presented for you to work with.

Text

Enter a character string of up to 50 characters to describe the library list. If you are retrieving the library list from a job description (see below), leaving this prompt blank will retrieve the library list text from the job description text.

Retrieve from jobd

Specify the name of the job description whose initial library list should be used as the basis for the list to be created. The possible values are:

- ***NONE.** No job description is retrieved. The initial library list will be empty.
- ***JOB.** The current job's library list will be retrieved.
- **Job description name.** Type the name of the job description to be used. If you leave the job description library blank, *LIBL is assumed for the library name.

Options to Work With Library Lists

Below are the options available for working with your existing library lists.

2=Edit

Select option 2 to change, remove or resequence libraries in a library list.

3=Copy

Type an option 3 next to each library list you want to copy and press Enter. When you do this, Docu-Mint presents a new screen showing the selected

list(s), and allows you to specify a new name for them. You may have to roll through the list to see all the library lists you chose. Type the name you want to copy the library lists to under the New Name column. If there are lists that you decide you no longer wish to copy, just leave their new names unchanged.

4=Delete

Use option 4 to delete library list entries. Docu-Mint presents a confirmation list of the selected libraries before deleting them. You can press F12=Cancel from that screen to return to the selection screen.

5=Display

You can display your library list entry information using option 5.

7=Rename

To rename a library list, type an option 7 next to each library list you want to rename and press Enter. At the panel presented, type the new library list name(s), or press F12 to cancel the change(s).

Creating and Changing Library List Entries

When you press F6 to create or select option 2=Change to edit library lists, the panel presented is similar to the one illustrated below:

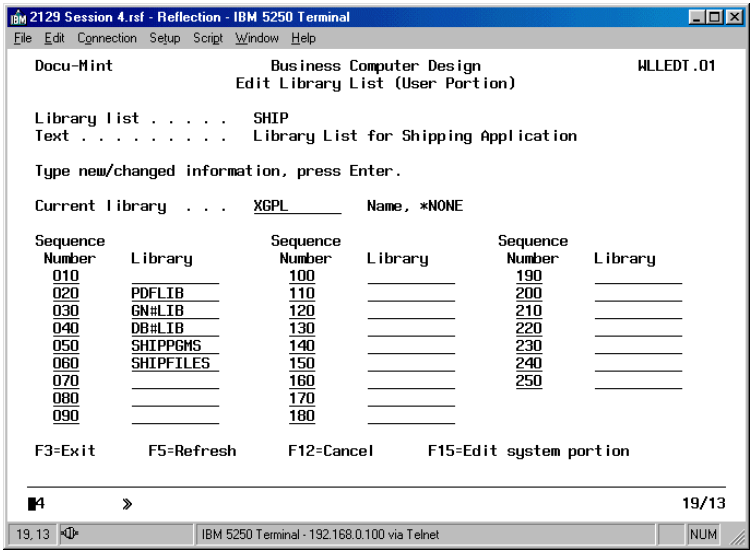

Figure 9-6.

This is the **Edit Library List (User Portion)** display. From here you can add, remove and change the order of libraries in the user portion of the library list requested. To edit the system portion of the library list, Press F15.

Current library

Specify the name of this library list's current library. Enter a value of *NONE or leave this field blank if the library list does not have a current library.

Sequence Number

This is the order in which the libraries in this portion of the library list will be searched for an object. You can change the search order by changing the sequence numbers. You can add a library to the search list by adding its name and a sequence number. For example, to add a library MYLIB to the list so that it is searched for after the library with sequence number 10 but before library 20, enter any sequence number from 11 to 19 along with the name MYLIB. When you press Enter, the list will be resequenced.

To remove a library, blank out the library name.

Library

Specify the name of the library at this position in this portion of the library list.

F15=Edit system/user portion

Toggles the display between the system portion of the library list and the user portion of the library list.

Option 11 – Maintain the Alternate Source Definitions File

When an object is compiled on the IBM i, a link is established between the object and the source member used in creating the object. Docu-Mint relies on this source/object link when it is asked to update the cross reference files during a library or object analysis. If an object's source is deleted, moved, or renamed, the link between object and source is broken. This most often occurs when development source is moved into production source after a production object has been compiled from the development source. When this situation occurs, Docu-Mint needs help in locating the source for these "orphaned" objects. This is where Docu-Mint's **Alternate Source Definitions** come into play. Through the use of alternate source definition records, you are able to suggest alternative source locations for the objects residing on your system.

Use Option 11 from the **Docu-Mint Configuration Menu** to set up the alternate source definitions. You can also add alternate source references from the **Display Library Analysis Records** panel (option 10 from the WWL screen).

An alternate source definition record consists of the following information:

- The name and library of a source file objects were compiled from.
- A search sequence number.
- The name and library of an alternate source file Docu-Mint should look in for objects compiled from the "Compiled From" source.

Docu-Mint uses this information when it is analyzing an object, and the object's source is needed for the analysis. If the source from the object's object description service attributes is not found, Docu-Mint then begins searching the "Look In" source of the alternate source definition records whose "Compiled From" source matches that from the object description. The source sequence number controls the order in which equivalent "Compiled From" records are processed.

When you select option 11 from the menu DM#CFG, the panel initially presented is similar to the one shown below. If you have already defined some

alternate source entries, this panel will initially display those records, in update mode.

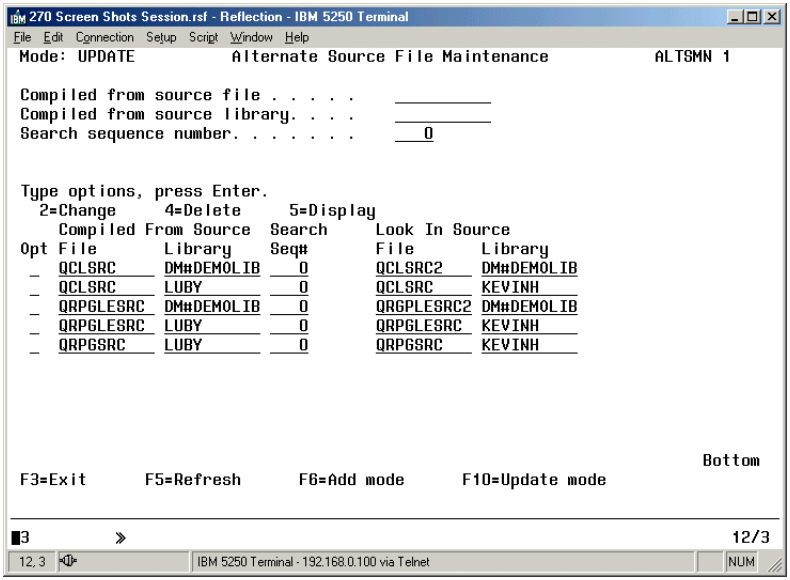
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Mode: UPDATE Alternate Source File Maintenance ALTSMN 1
Compiled from source file . . . . .
Compiled from source library. . . .
Search sequence number. 0
Type options, press Enter.
2=Change 4=Delete 5=Display
Compiled From Source Search Look In Source
Opt File Library Seq# File Library
QCLSRC DM#DEMOLIB 0 QCLSRC2 DM#DEMOLIB
QCLSRC LUBY 0 QCLSRC KEVINH
QRPGLESRC DM#DEMOLIB 0 QRGPLESRC2 DM#DEMOLIB
QRPGLESRC LUBY 0 QRPGLESRC KEVINH
QRPGSRC LUBY 0 QRPGSRC KEVINH
Bottom
F3=Exit F5=Refresh F6=Add mode F10=Update mode
3
12/3
12, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 9-7.

Explanation of Panel

Adding Alternate Source Definition Records

To add records to the alternate source definitions file, you first need to place the program into ADD mode by pressing F6=Add mode. Blank records are presented in the list portion of the screen, allowing you to enter up to 10 alternate source definition records at a time. After entering the data, press Enter to accept the records. Docu-Mint will issue a message informing you that the records were processed successfully. Continue by entering more records or pressing F10=Update mode to work with existing alternate source definition records.

Updating Alternate Source Definition Records

To update records in the alternate source definitions file, you first need to place the program into UPDATE mode by pressing F10=Update mode. From this display you may change, delete or display the existing alternate source definition file records by placing the appropriate option next to the record in the Opt column and pressing Enter.

Option 12 - Maintain Alternate ILE Module Object Library Reference File

When program objects are created the may contain bound modules. The modules are in fact the objects that contain all the pertinent information indicating the source file and member info, etc. that is necessary to perform source code analysis. If the *MODULE objects have been moved to a library other than what is specified in the program object, the alternate module library will direct the analysis process where to find the module.

You can add alternate ILE module object libs by selecting option 12 from the menu DM#CFG (option 5 from the Docu-Mint Main Menu). When you do this, a panel similar to this one is presented:

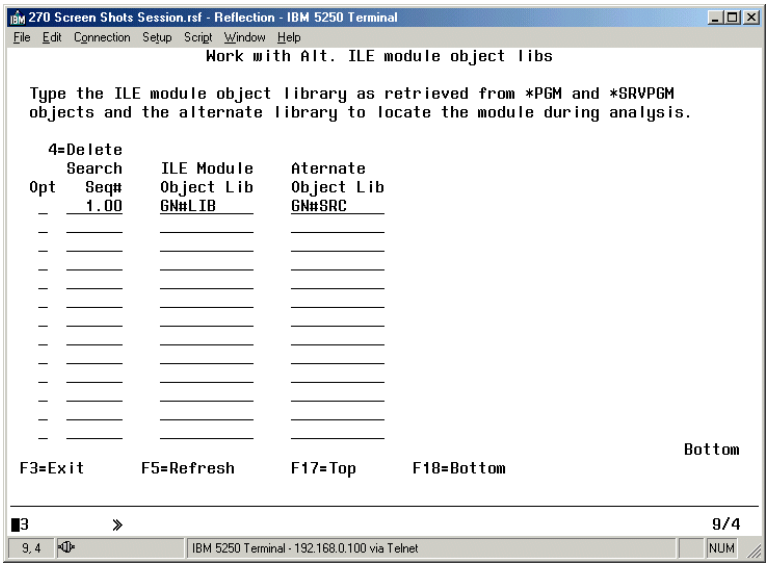

Figure 9-8.

To add new records, type fields values into a new line in the list. To add new empty lines to the bottom of the list, press F18=Bottom.

Search Seq

If you have multiple alternate entries for a library, you can use the sequence to number to determine the order in which alternate libraries are searched. Generally, you would add the most likely candidates with lower sequence numbers.

ILE Module Object Lib

This is the expected module library, as determined by checking the program.

Alternate Object Lib
Type the name of the actual library where the module resides.

Option 13 – Maintain the Options Control File

All Docu-Mint list displays support the use of option codes to perform various functions on the items in the list. Both PDM and Docu-Mint defined option codes are recognized with the Docu-Mint option codes. Use option 13 to work with the options control file.

You can also work with your options by pressing F8 from the Work with System Libraries and Work with Analyzed Objects panel. The panel presented is described in the section **Customizing the WWL and WWO Options** on page 80 of Chapter 4.

The special options in Docu-Mint for controlling options provide the following enhanced capabilities:

- Three character option codes allow for IBM-like mnemonics in describing the function being performed (CPY, CRT, DLT, EDT, etc.).
- Options are object type and attribute sensitive allowing for different, yet similar, commands to be executed for the same option. For example, option 5=Display will execute DSPCMD if the list item is a command, and DSPDTAARA if the list item is a data area. This object/type/attribute structure also allows the command being executed to be determined in a hierarchical manner as follows:

A check is first made for a record whose option, type and attribute match that of the requesting option, type and attribute. If a match is found, the command defined on this record is used.

Next, a check is made for a record whose option and type match that of the requesting option and type and whose attribute key field is blank.

Finally, a check is made for a record with the requested option whose type and attribute key fields are blank.

- In addition to providing support to PDM substitution variables (&N, &L, &T, etc.), Docu-Mint also recognizes the following additional substitution variables:

Substitution Variable	Description
&dftfil, &dftlib	The default Docu- Mint source file and library defined by the Change Docu- Mint Defaults (CHGDOCDFT) command.
&srcfil, &srclib, &srcmbr	The source file, library and member used to create the object.

Creating Option Control Records

To create a new option control record, enter the Option, Item type and Item attribute values in the list display and press F6=Create. Remember to right justify the Option before pressing F6. After your press F6 Docu-Mint presents the display described in the next section below, allowing you to enter the required information.

Working with Option Control Records

When you select option 13, then press F6 to create a new option, or select option 2 to modify an existing one, the panel presented is similar to this one:

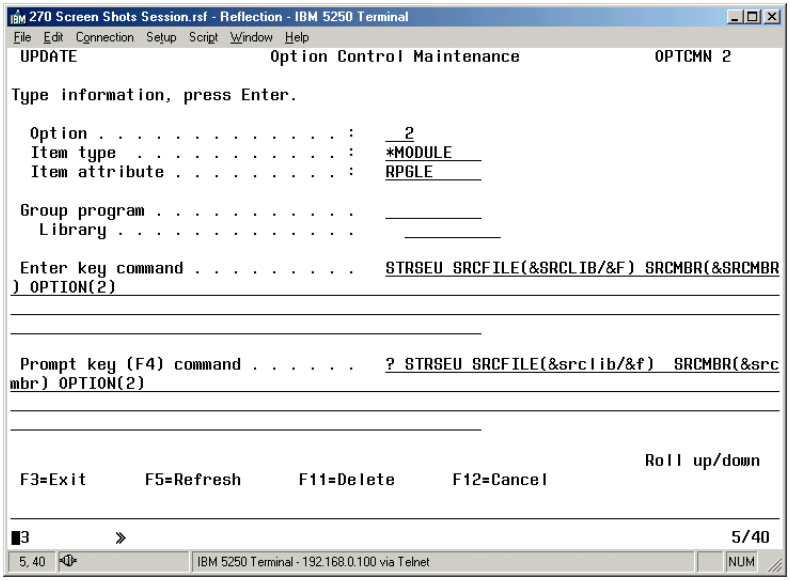
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
UPDATE Option Control Maintenance OPTCMN 2
Type information, press Enter.
Option . . . . . : 2
Item type . . . . . : *MODULE
Item attribute . . . . . : RPGLE
Group program . . . . . :
Library . . . . . :
Enter key command . . . . . : STRSEU SRCFILE(&SRCLIB/&F) SRCMBR(&SRCMBR) OPTION(2)
Prompt key (F4) command . . . . . : ? STRSEU SRCFILE(&srclib/&f) SRCMBR(&src mbr) OPTION(2)
Roll up/down
F3=Exit F5=Refresh F11=Delete F12=Cancel
3 5/40
5, 40
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 9-9.

Option Control File Fields

Below are descriptions of fields defined in the Docu-Mint's Option Control File (DOPTCP) and used in the Options Control File Maintenance Program.

Option

This should be a one- to three-character, right-justified code identifying the option.

Item type

Restricts the option to operating on items of this type only. Special value *OPT (along with Item attribute DESC) may be used to define a 20 character description (entered in the 'Enter key command' field) of the option. Special values *PROC and *SRCM may be used to define options operating on procedures and source members.

Item attribute

Restricts the options to operating on items with this object attribute only (such as CLP, RPG, LF, PF). Special value DESC (along with Item type *OPT) may be used to define a 20 character description (entered in the Enter key command field) of the option.

Group program

Not used at this time. This field is defined for a future version of Docu-Mint to provide for performing multiple option functions from a single display (similar to PDM's Copy and Rename options).

Enter key command

The command to perform when the Enter key is pressed from the list display or a 20 character description of the option's function.

To disable a valid option for a particular type or type/attribute combination create a record for the option/type/attribute and leave the Enter key command field blank.

Prompt key (F4) command

The command to perform when F4=Prompt is pressed from the list display.

CHAPTER 10

Menu DM#ANZ: Object Documentation

Select option 30 from the Docu-Mint Main Menu to present the **Object Documentation Menu**. You can also get to this menu by pressing F19=Docobj Menu from the **Work with System Libraries** panel.

These options are used to update the internal cross reference files that Docu-Mint uses to generate the lists and reports. They do not produce any output themselves. Use these when options when only a few objects in a library have been changed, and you want to update the internal records pertaining to just those objects without running a full library analysis.

Below is an illustration of the menu DM#ANZ:

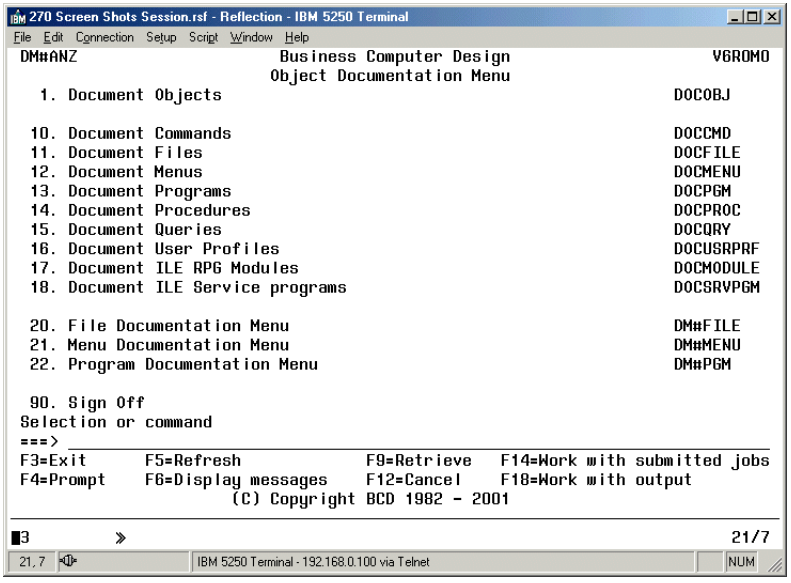
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#ANZ Business Computer Design V6ROMO
Object Documentation Menu
1. Document Objects DOCOBJ
10. Document Commands DOCCMD
11. Document Files DOCFILE
12. Document Menus DOCMENU
13. Document Programs DOCPGM
14. Document Procedures DOCPROC
15. Document Queries DOCQRY
16. Document User Profiles DOCUSRPRF
17. Document ILE RPG Modules DOCMODULE
18. Document ILE Service programs DOCSRVPGM
20. File Documentation Menu DM#FILE
21. Menu Documentation Menu DM#MENU
22. Program Documentation Menu DM#PGM
90. Sign Off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 10-1.

Explanation of Options

DOCOBJ – Document Objects

The **Document Objects** command (and related commands DOCCMD, DOCFILE, DOCMENU, DOCPGM, DOCPROC, DOCQRY, DOCUSRPRF, DOCMODULE and DOCSRVPGM) initiates an analysis of an object or group of objects of a single type within a library. The same degree of analysis is done as that produced by the Start Library Analysis (STRLIBANZ) command, the difference being that all objects requested by a DOCxxx command will be analyzed even if the object was successfully analyzed previously and has not been changed or recompiled since.

When you select the DOCOBJ option, the panel below is displayed:

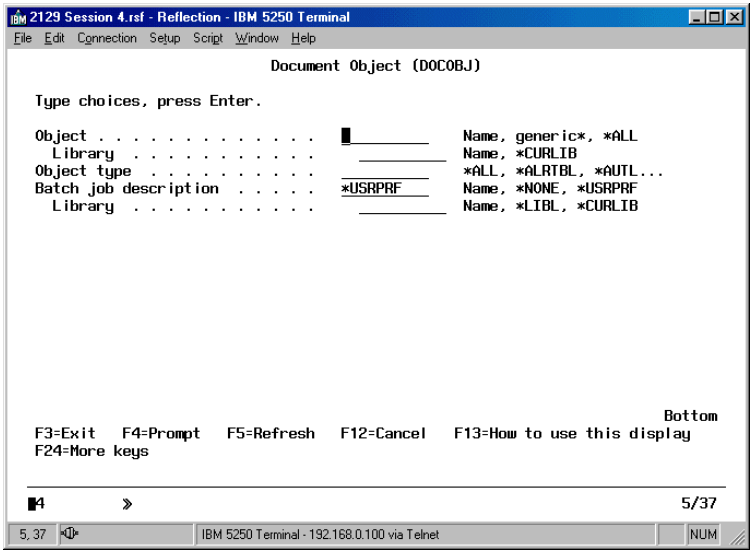
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Document Object (DOCOBJ)
Type choices, press Enter.
Object . . . . . Name, generic*, *ALL
Library . . . . . Name, *CURLIB
Object type . . . . . *ALL, *ALRTBL, *AUTL...
Batch job description . . . . . *USRPRF Name, *NONE, *USRPRF
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
4 5/37
5, 37
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 10-2.

Explanation of Panel

Enter the object name and library. Valid values for the object name are the actual name, *ALL, or a generic value (using * as the last character). Press F4 on the Object Type parm for a list of valid object types.

The remaining options from the menu DM#ANZ present command prompts similar to the one shown above, except that the object type is assumed.

Option 20 – Menu DM#FILE: File Documentation Menu

Use option 20 from the DM#ANZ menu to present the **File Documentation Menu**. Below is an illustration of this menu:

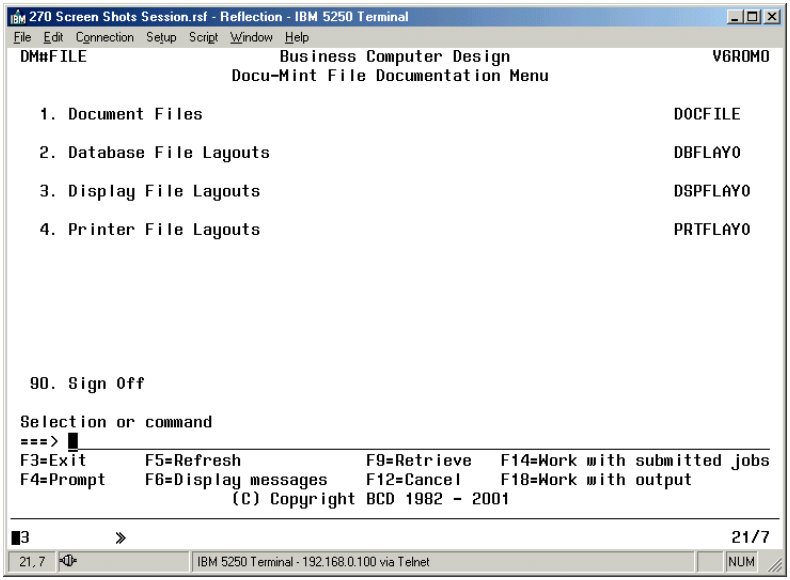
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#FILE Business Computer Design V6ROM0
Docu-Mint File Documentation Menu
1. Document Files DOCFILE
2. Database File Layouts DBFLAY0
3. Display File Layouts DSPFLAY0
4. Printer File Layouts PRTFLAY0
90. Sign Off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F8=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 10-3.

DOCFILE – Document File

The **DOCFILE** command initiates an analysis of a file within a library. The same degree of analysis is done as that produced by the Start Library Analysis (STRLIBANZ) command, the difference being that all objects requested by a DOCxxx command will be analyzed even if the object was successfully analyzed previously and has not been changed or recompiled since.

DBFLAY0 – Database File Layouts

The **Database File Layouts** command produces a report listing file and field information including:

File Attribute Information	Field Attribute Information
Type (*physical or logical*)	Field names
Description	Attributes (character, numeric, binary, packed, etc.)
Record format	File buffer positions
Access path	Usage (input, output, both, neither)
Select/omit (*logical files only*)	Description

File Attribute Information	Field Attribute Information
Based on files (*logical files only*)	Reference fields
Dependent files (*physical files only*)	

DSPFLAYO – Display File Layouts

The **Display File Layouts** command produces a report showing display file samples along with field, constant and keyword information about the display file.

PRTFLAYO – Printer File Layouts

The Printer File Layouts command produces a report showing printer file samples along with field, constant and keyword information about the printer file.

Option 21 – Menu DM#MENU: Menu Documentation

Option 21 from DM#ANZ presents the **Menu Documentation Menu**, below:

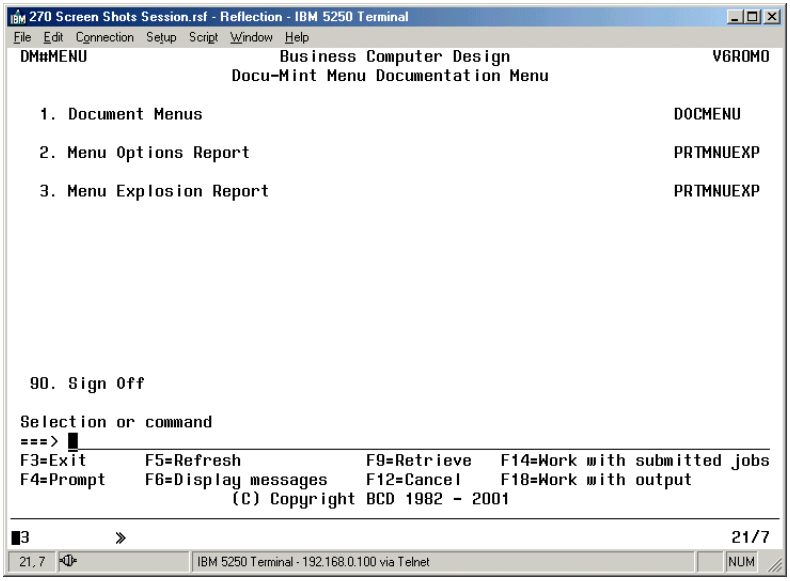
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#MENU Business Computer Design V6ROMO
Docu-Mint Menu Documentation Menu
1. Document Menus DOCMENU
2. Menu Options Report PRTMNUEXP
3. Menu Explosion Report PRTMNUEXP
90. Sign Off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 10-4.

DOCMENU – Document Menus

The DOCMENU command initiates an analysis of a menu or menus. The same degree of analysis is done as that produced by the STRLIBANZ command, with the difference that all objects requested by a DOCxxx command are analyzed even if the object was successfully analyzed previously and has not been changed since.

PRTMNUOPT

Select this option to print a list of menu options.

PRTMNUEXP – Menu Explosion Report

The Menu Explosion Report command produces a report listing menu images, options and optionally, exploded source listings of the commands and programs each menu step calls.

Option 22 – Menu DM#PGM: Program Documentation

When you select option 22 from the menu DM#ANZ, the **Program Documentation Menu** is presented, illustrated below:

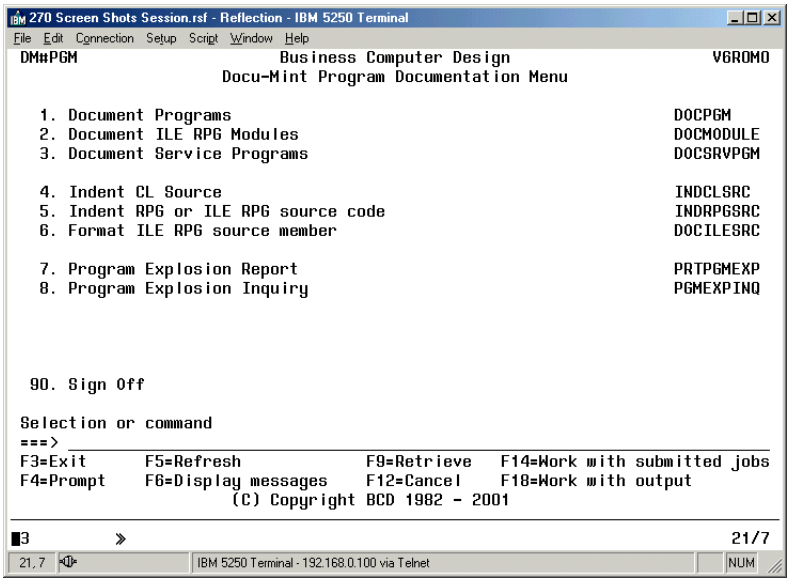
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
DM#PGM Business Computer Design V6ROMO
Docu-Mint Program Documentation Menu
1. Document Programs DOCPGM
2. Document ILE RPG Modules DOCMODULE
3. Document Service Programs DOCSRVPGM
4. Indent CL Source INDCLSRC
5. Indent RPG or ILE RPG source code INDRPGSRC
6. Format ILE RPG source member DOCILESRC
7. Program Explosion Report PRTPGMEXP
8. Program Explosion Inquiry PGMEXPINQ
90. Sign Off
Selection or command
===>
F3=Exit F5=Refresh F9=Retrieve F14=Work with submitted jobs
F4=Prompt F6=Display messages F12=Cancel F18=Work with output
(C) Copyright BCD 1982 - 2001
3 21/7
21, 7
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 10-5.

Options 1, 2 & 3: Document Programs, ILE RPG Modules and Service Programs

These options initiate an analysis of a program, module or service program, or set of these. The same degree of analysis is done as that produced by the Start Library Analysis (STRLIBANZ) command, the difference being that all objects requested by a DOCxxx command will be analyzed even if the object was successfully analyzed previously and has not been changed or recompiled since.

Option 4 – Indent CL Source

The Indent CL Source command (INDCLSRC) produces an indented listing of a CLP source member. The list will identify related DO/ENDDO commands,

connecting them with a separator character, and indenting any commands nested within the DO/ENDDO pair.

Option 5 – Indent RPG Source

The Indent RPG Source command (INDRPGSRC) produces an indented listing of an RPG or RPGLE source member. The list will identify related DOxxx/END[DO], IFxx/END[IF] and SELEC/WHxx/END[SL] operation codes, connecting them with a separator character, and indenting any statements within the structured code.

Option 6 – Format ILE RPG Source Member

The option to format an ILE RPG source member is used to enhance ILE source code. Typically, you will do this with source code that has recently been converted to ILE using IBM's CVTRPGSRC command. When you run DOCILESRC over an ILE source member, the following changes are made:

- Field definitions are consolidated into D-Specs.
- Comment lines are converted to high intensity.
- IF and DO structures are documented.

INDRPGSRC, INDCLSRC and DOCILESRC can also be run from the menu DM#UTL, and are described and illustrated in Chapter 8, **Menu DM#UTL: DocuMint Utilities**.

Option 7 – Program Explosion Report

The Program Explosion Report command produces two reference reports. The first report explodes the source of selected CL and RPG programs, showing program calls. The second report is a directory to the first report giving an alphabetical list of programs and the page of the first report that the program may be found on.

Program Explosion Inquiry

The PGMEXPINQ command (option 8 from menu DM#PGM) allows you to view a list of programs called by a selected RPG/400 or ILE RPG program. At the command prompt, enter the object name and library and the object type (*PGM, *MODULE). Then press Enter.

Below is an illustration of the output from this command, with module GN#G01:

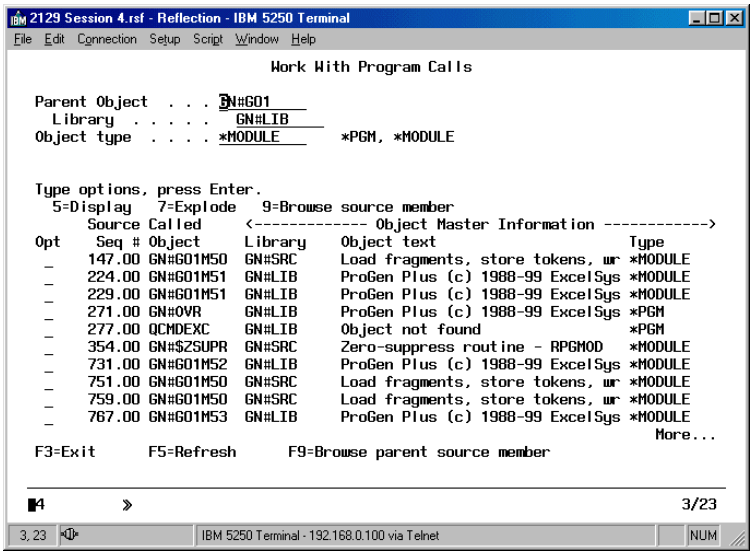
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Program Calls
Parent Object . . . GN#G01
Library . . . . . GN#LIB
Object type . . . . *MODULE *PGM, *MODULE
Type options, press Enter.
5=Display 7=Explode 9=Browse source member
Source Called <---------- Object Master Information ----------->
Opt Seq # Object Library Object text Type
147.00 GN#G01M50 GN#SRC Load fragments, store tokens, ur *MODULE
224.00 GN#G01M51 GN#LIB ProGen Plus (c) 1988-99 ExcelSys *MODULE
229.00 GN#G01M51 GN#LIB ProGen Plus (c) 1988-99 ExcelSys *MODULE
271.00 GN#OVR GN#LIB ProGen Plus (c) 1988-99 ExcelSys *PGM
277.00 QCMDEXC GN#LIB Object not found *PGM
354.00 GN#$ZSUPR GN#SRC Zero-suppress routine - RPGMOD *MODULE
731.00 GN#G01M52 GN#LIB ProGen Plus (c) 1988-99 ExcelSys *MODULE
751.00 GN#G01M50 GN#SRC Load fragments, store tokens, ur *MODULE
759.00 GN#G01M50 GN#SRC Load fragments, store tokens, ur *MODULE
767.00 GN#G01M53 GN#LIB ProGen Plus (c) 1988-99 ExcelSys *MODULE
More...
F3=Exit F5=Refresh F9=Browse parent source member
4
3/23
3, 23
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 10-6.

5=Display

Use this option to display additional information about a program call.

7=Explode

Use option 7 to drill down and explode one of the programs appearing in the list. If you do this, you can press F3 at any time to return to the previous parent object.

9=Browse source member

Select option 9 for an individual entry to browse the source for the selected object.

F3=Exit

If you have used option 7 to drill down through a set of program calls, F3 will return you to the last level you were at. If you drilled down below your initial

explosion level, or have returned to your first explosion level, F3 exits the command.

F9=Browse parent source member

The parent object is shown at the top of the panel. Press F9 from this screen to browse the source for this member.

SECTION

IV

Extended Field Analysis Functions

In this Section:

Chapter 11 - Extended Field Analysis Functions

Chapter 12 - Extended Field Analysis Reports

CHAPTER 11

Extended Field Analysis Functions

Overview

Docu-Mint's **Extended Field Analysis** features provide the functionality to analyze and identify specific file fields, determine what programs reference and use these file fields, and document the programs which will require changes. The extended field analysis utilizes the file and program information derived from the Docu-Mint library analysis. The steps involved to perform this analysis are described below:

1. Mark and Analyze Libraries

Before proceeding, the libraries requiring extended analysis must be marked with a *LOAD option using the MRKLIB command and analyzed using the STRLIBANZ command. When you prompt the command, press F10=Additional Parameters, and confirm the option to 'Include extended field xref' is set to *YES (the default).

2. *FILE Analysis

Begin by building a *FILE analysis, as follows:

- Identify the file(s) to be analyzed. You can analyze generic groups of files, or all the files in a selected library.
- Build your *FILE analysis rules. These rules are used to select fields from the files you have specified. Analysis rules provide the ability to select file fields using several field properties such as the attributes, name, text, column headings and editing. You can also build additional rules to omit certain fields that you may initially included. Then execute the analysis.
- Review the *FILE analysis results and eliminate unwanted fields by refining your selection rules and/or creating new rules to explicitly or implicitly omit fields. If necessary, run the analysis again.

- Further refine your results by explicitly omitting individual unwanted fields.
- Generate reports to determine what rules were applied to select/omit fields, and to determine which file fields will need to be changed. Initial program impact analysis reports indicate which programs are affected by the changes.

3. *PGM Analysis

Generally you will build a *PGM analysis after first creating one or more *FILE analyses:

- Identify the program(s) that reference and use the files and fields selected by your *FILE analysis.
- Determine which *FILE analysis entries are to be associated or attached to the *PGM analysis. Enabling the selection of one or more file analyses gives you the ability to analyze programs which may reference files in multiple libraries.
- Determine the *PGM analysis rules. A subset of rules can be added to be used when analyzing programs, to select non-file fields which match properties such as field attributes, name, and constant values. Also select internally defined fields or constants which match rules established for the *PGM analysis.
- The programs are then analyzed by documenting source code which references fields already identified by the *FILE analysis and/or determined by the *PGM rules. Source code specifications are listed and a drill down/drill up functionality is available to help you determine which source code specifications need to be changed.
- Finally, generate impact analysis summaries and detail reports, and print the worksheet necessary for the programmer to begin making source code changes.

The following sections of this chapter describe in detail the extended field analysis functions available in Docu-Mint.

The Work with Extended Field and Program Analysis Panel

To access the Extended Field Analysis functions, type option 20 at either the Docu-Mint Main Menu or the **Field Cross Reference Menu** DM#FLD.

Below is an illustration of the panel presented to work with extended field and program analyses:

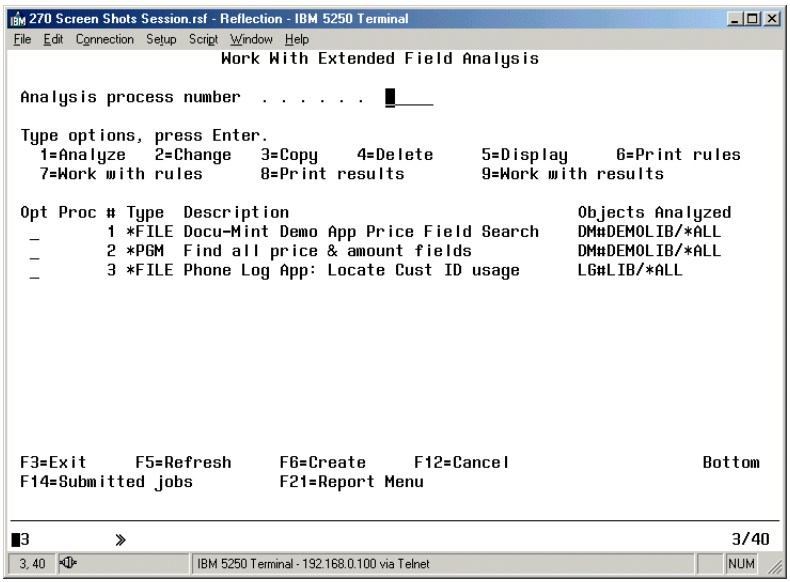
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Extended Field Analysis
Analysis process number . . . . . .
Type options, press Enter.
1=Analyze 2=Change 3=Copy 4=Delete 5=Display 6=Print rules
7=Work with rules 8=Print results 9=Work with results
Opt Proc # Type Description Objects Analyzed
1 *FILE Docu-Mint Demo App Price Field Search DM#DEMOLIB/*ALL
2 *PGM Find all price & amount fields DM#DEMOLIB/*ALL
3 *FILE Phone Log App: Locate Cust ID usage LG#LIB/*ALL
F3=Exit F5=Refresh F6=Create F12=Cancel Bottom
F14=Submitted jobs F21=Report Menu
3 3/40
3, 40
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 11-1.

Explanation of Panel

The panel above includes 3 examples of extended field analyses. In this case, the first and last are over the files in a library, and the second is over the programs in the first lib. Below is an overview of how to create a field analysis, and on the next page are descriptions of the function keys and options on this panel.

Steps to Creating a Field Analysis

The extended field analysis functions rely on the internal cross reference files built by Docu-Mint through the standard Mark Lib/Library Analysis commands. Before you can analyze a set of files or programs, you must first mark the libraries and run the STRLIBANZ command over them.

Note that in order to use the extended field analysis functions, you need to have run the library analysis with the FLDXREF parm set to *YES (the default).

After a library has been analyzed, you can then come to this panel and begin to build an extended field analysis. The steps to do that are as follows:

1. From the panel above, press F6 and select the analysis type, *PGM or *FILE.
2. After you select the analysis type, a panel is presented where you can fill in additional values, such as a description of the analysis, and the object name(s). When you select an analysis of type *PGM, a list panel is presented with a subset of the existing *FILE analyses, allowing you to select one or more *FILE analyses to be associated with the program analysis.
3. After you create the analysis entry you can return to the panel above and use option 7 to define a set of rules for field identification. Rules can be defined for field selection as well as for field exclusion.
4. After defining the rules, you then return to this panel and use option 1 to run the analysis of the files or programs in the selected library.
5. After the analysis has been run, you can select option 8 print the results, or use option 9 to work with the results of the analysis. When you work with the results of the analysis, you can explicitly omit specific fields, or work with field cross reference and dependency reports. At this time you may also choose to refine your selection rules, and rerun the analysis before working with the results.

The remaining sections of this guide describe these processes in detail.

Explanation of Function Keys (Work with Extended Field Analysis)

F6=Create

Press F6 to create a new program or file analysis entry. On creation you are prompted for the type of analysis you are creating (*FILE, *PGM). Based on the analysis type, you are presented with panels which prompt for the attributes of the analysis, associated *FILE entries (for *PGM only) and the analysis rules. After you create the entry, you return to the panel above to work with the analysis.

F21=Report Menu

Function 21 first prompts you to select one of the analyses, then presents a window from which you can select one of several reports. The reports currently available for type *FILE analyses are:

- Detail listing of selected/omitted fields by file
- Summary listing of selected files

- File/program impact analysis summary
- Analysis select/omit rules listing

When you select an analysis of type *PGM, there are 5 reports available:

- Detail listing of selected/omitted fields by program
- Summary listing of affected programs
- Summary listing of fields referenced by a program
- Program/Display File change requirements work sheet
- Analysis select/omit rules listing

These reports are described in more detail in Chapter 12.

Explanation of Options

1=Analyze

After you create an analysis entry and define the select/omit rules, you can use option 1 to run the analysis. Running an analysis does not yield any output. After the analysis is complete, use options 8 and 9 to print and/or work with the results.

2=Change

Use option 2 to work with an analysis entry. If you select this option for a *PGM analysis you can work with the associated *FILE analyses at the panel presented. The panel for creating and working with analysis entries is described in the next section.

3=Copy

You can use option 3 to copy an analysis entry, along with the sets of select/omit rules defined for it. After copying an entry, you can then modify it and it's defined rule sets. Copying an analysis does not copy the analysis results.

4=Delete

Select option 4 to delete an analysis, it's associated select/omit rules, results and *FILE cross reference entries.

5=Display

Use option 5 to display the attributes of an analysis.

6=Print Rules

Use option 6 to print the field select/omit rules associated with an analysis.

7=Work with Rules

Select option 7 to work with the field select/omit rules for an analysis.

8=Print Results

Use option 8 to print the results of an analysis. The results are generated using option 1 from this panel.

9=Work with Results

Option 9 presents a panel from which you can work with the results of the latest execution of an analysis. You can use the information presented on this panel to fine-tune your field select/omit criteria, as well as to determine specifically which of your rules resulted in the selection or omission of a field.

This option and the panels presented are described in detail later in this chapter.

Creating and Editing a *FILE Field Analysis Entry

To begin creating an extended field analysis definition, press F6 from Figure 11-1. After you've created an entry, you can make changes to it using option 2.

When you press F6 to create a new analysis, Docu-Mint first prompts you for the analysis type (*PGM or *FILE). Once you select the type of *FILE, the panel below is presented for working with the extended field analysis:

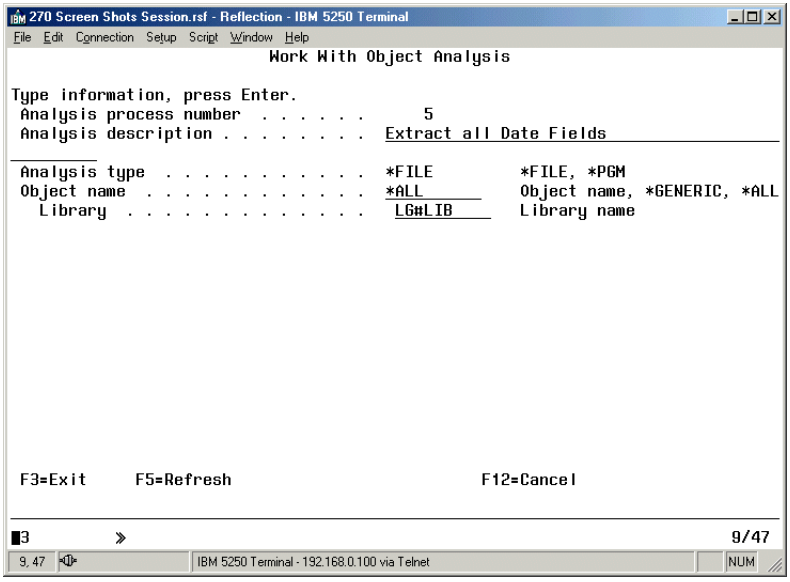
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Object Analysis
Type information, press Enter.
Analysis process number 5
Analysis description . . . . . Extract all Date Fields
Analysis type . . . . . *FILE *FILE, *PGM
Object name . . . . . *ALL Object name, *GENERIC, *ALL
Library . . . . . LG#LIB Library name
F3=Exit F5=Refresh F12=Cancel
3
9/47
9, 47
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 11-2.

Explanation of Panel

Analysis Description

Type a summary description of the analysis.

Analysis Type

Analyses are of two types: *FILE and *PGM. This values is selected at a previous prompt window, and cannot be changed from this panel.

Object Name and Library

Type the name of the file object to run the analysis over. Valid values are as follows:

- An existing file name.
- A generic value such as LG#*, to analyze all files beginning with the characters LG# in the selected library.
- *ALL, to analyze all the files in the selected library.

Analysis Results

The bottom portion of this panel displays the results of the last time the analysis was run. The information available includes the date and time, as well the number of fields selected and explicitly omitted.

Working with *FILE Analysis Rules

After you have created a *FILE analysis entry, you can select option 7 from the **Work With Extended Field and Program Analysis** panel (Figure 11-1) to define and work with field selection rules. This panel is also presented automatically after a *FILE analysis entry is created.

The panel presented is similar to the one shown below:

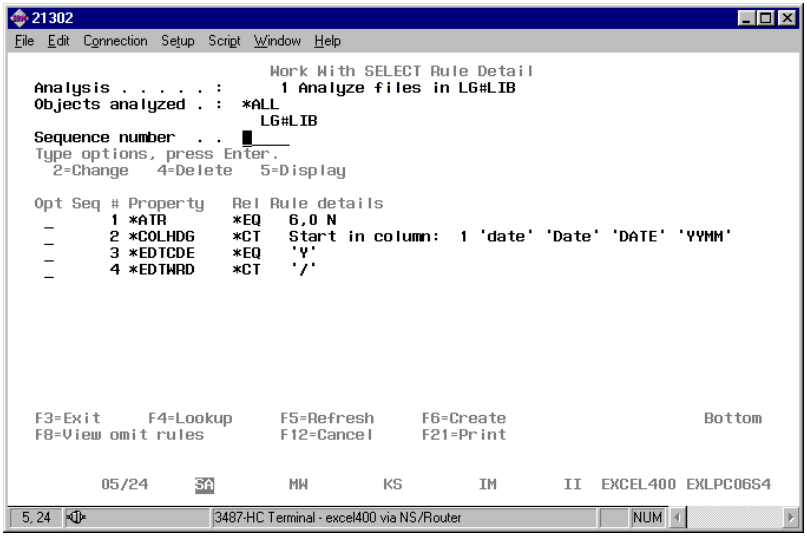
21302
File Edit Connection Setup Script Window Help
Work With SELECT Rule Detail
Analysis . . . . . : 1 Analyze files in LG#LIB
Objects analyzed . : *ALL
LG#LIB
Sequence number . . ____
Type options, press Enter.
2=Change 4=Delete 5=Display
Opt Seq # Property Rel Rule details
1 *ATR *EQ 6,0 N
2 *COLHDG *CT Start in column: 1 'date' 'Date' 'DATE' 'YYMM'
3 *EDTCDE *EQ 'Y'
4 *EDTWRD *CT '/'
F3=Exit F4=Lookup F5=Refresh F6=Create Bottom
F8=View omit rules F12=Cancel F21=Print
05/24 MW KS IM II EXCEL400 EXLPC06S4
5, 24
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-3.

Explanation of Panel

This panel displays a list of rules defined for the selected *FILE analysis entry. From here you can create new rules by pressing F6, or modify existing ones using option 2.

Note that when you build multiple rules, these are applied with the equivalent to an 'OR' condition. That means that in the example above, all fields that are 6,0 N will be selected according to rule 1, regardless of whether field column heading contains (*CT) the text 'date', according to rule 2.

From this panel you can press F21 to print a list of your Select and Omit rules.

Press F8 to toggle between working with Omit vs. Select rules. When you first present this panel, the Select rules are displayed.

Defining Select/Omit Rules

As mentioned above, when selecting records only one of the "select" rules needs to be satisfied to include a field. After reviewing the results of your field

selections you may find several fields that should not be included in the results even though they match one or more of the select rules defined. For example, if you are searching for 6 digit *date* fields using a rule of "*ATR *EQ 6,0 N", you may inadvertently select *time* fields which also satisfy this rule. If this happens, the *time* fields can be removed from your selection using one or a combination of the techniques below:

1. Create an "omit" rule which will omit field text or column headings that contain the constant "time". A generic rule such as this will require that the analysis be executed again, clearing the previous results and building a new set of results based on the revised rules. After a field is selected it is then subject to the "omit" rules. If one omit rule is satisfied, the record will be flagged as omitted.
2. If a limited number of fields are incorrectly selected, they can be explicitly omitted using option 4=Omit field when working with the analysis results. By explicitly omitting fields, the field is added to the list of omitted fields and a *QNAME type omission rule is automatically created to ensure that the field is omitted should the analysis be executed again. This technique is generally preferable if you have already narrowed the list of fields selected by refining the select/omit rules, and a relatively small number of undesired fields still exist.

Creating Select Field Properties

To create new Select rules for a *FILE analysis, press F6 from the panel shown above (Figure 11-3). When you do this, the window below is presented:

Figure 11-4.

You can define 8 different *FILE Select types. These are:

- *ATR - Checking field attributes, including field length, decimals or type.
- *COLHDG - Searching for text within the field column headings.
- *EDTCDE - Searching for specific Edit Words.
- *EDTWRD - Searching for specific Edit Words.
- *NAME - Checking the field name for specified characters.
- *QNAME - Adding specific fields to the selection.
- *TEXT - Searching for specified text in your file field text entries.
- *TYPE - Selecting certain field types.

After you choose the Select rule type, another window is presented to confirm your Select, and then Docu-Mint presents an additional panel for defining the rule parameters.

The sections below describe each of these Select methods in more detail.

*ATR Selection: Field Type/Attributes

When you choose a Select rule of type *ATR, a panel similar to the one below is presented:

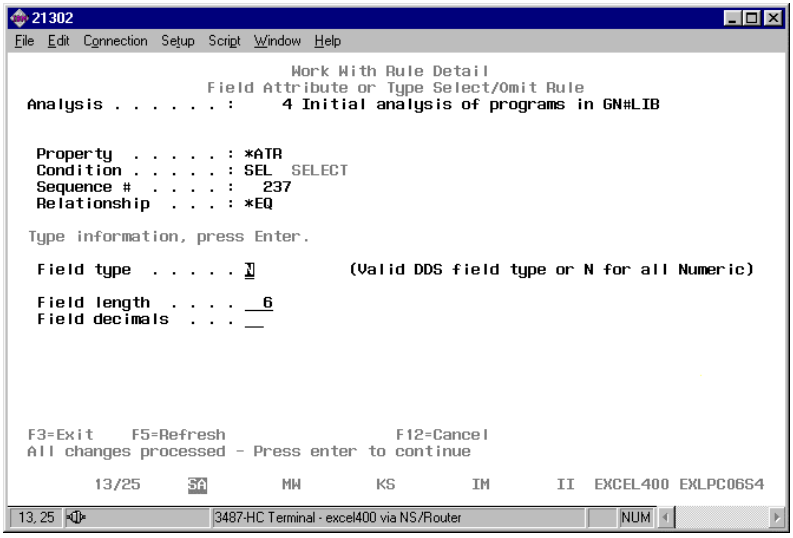
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Attribute or Type Select/Omit Rule
Analysis . . . . . : 4 Initial analysis of programs in GN#LIB
Property . . . . . : *ATR
Condition . . . . . : SEL SELECT
Sequence # . . . . : 237
Relationship . . . : *EQ
Type information, press Enter.
Field type . . . . . N (Valid DDS field type or N for all Numeric)
Field length 6
Field decimals . . . __
F3=Exit F5=Refresh F12=Cancel
All changes processed - Press enter to continue
13/25 MW KS IM II EXCEL400 EXLPC06S4
13, 25
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-5.

Explanation of Panel

This panel allows you to select a field type in combination with specific field attributes. For example, in this case we are defining a rule to select all 6,0 N fields.

Field Type

You can use any valid DDS field type for this option, such as A, S or P. You can also use N to correspond to all numeric field types.

Field Length and Decimals

Type the field length and decimals of the fields to be selected.

The *ATR rule will in many cases be the broadest rule that you will define, and results in the selection of the greatest number of fields. If the results include a group of fields that are different from what you need, you can build a *OMIT rule to exclude these. For example, if you define a *ATR rule to include all fields that are 6,0 N when you were looking for dates, and the results include many fields like Client Number or Customer Number, you could then define another *OMIT rule to exclude all fields where the field text included the word 'Number'.

*COLHDG Selection: Column Heading

A panel similar to this one is presented to build a rule of type *COLHDG:

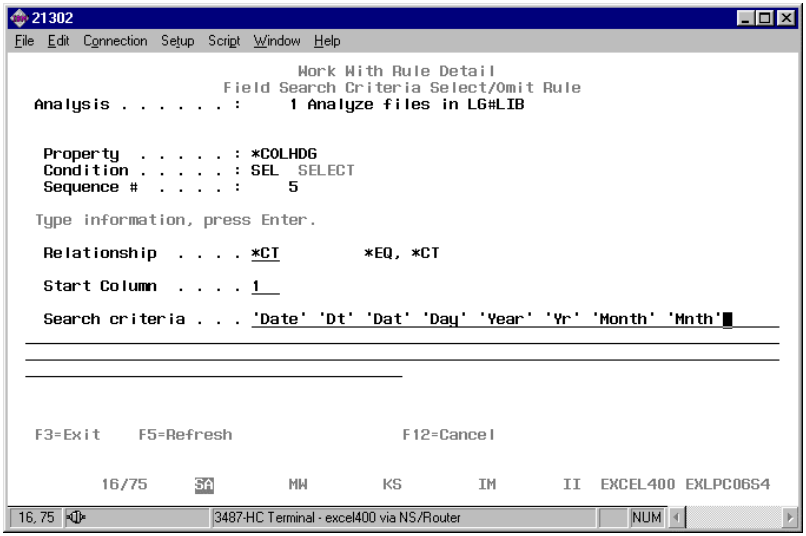
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 1 Analyze files in LG#LIB
Property . . . . . : *COLHDG
Condition . . . . . : SEL SELECT
Sequence # . . . . : 5
Type information, press Enter.
Relationship . . . . *CT *EQ, *CT
Start Column 1
Search criteria . . . 'Date' 'Dt' 'Dat' 'Day' 'Year' 'Yr' 'Month' 'Mnth'
F3=Exit F5=Refresh F12=Cancel
16/75 MW KS IM II EXCEL400 EXLPC0654
16, 75
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-6.

Relationship

Two relationships can be defined in *COLHDG rules: *EQ and *CT. If you select *EQ, Docu-Mint evaluates each column heading field entry (as specified by the COLHDG keyword) beginning with the column specified, for the number of spaces of each column heading or portion of column heading that you enter. If you select *CT, Docu-Mint will check for the entered column heading from the start column position to the end of the line.

Start Column

Enter the column at which to begin selecting the entered column heading(s). See the comments above for the importance of the start column in using *EQ vs. *CT. The search criteria is case sensitive.

Search Criteria

On this line you can enter one or more column headings or heading fragments to be located. If you specify multiple entries, you must leave one blank space between them. All entries must be enclosed in single quotes.

If you specify *EQ as the relationship, Docu-Mint evaluates each line of column headings beginning with the column specified, for the number of characters of each of the search entries. If you specify *CT as the relationship, Docu-Mint evaluates each line of column headings beginning at the start column, and to the end of the line, for each of the search entries.

*EDTCDE Selection: Edit Code

When you build a rule of type *EDTCDE, Docu-Mint scans the field edit code entries for the entered value(s).

The panel presented for defining *ETDCDE selection rules is similar to the one shown below:

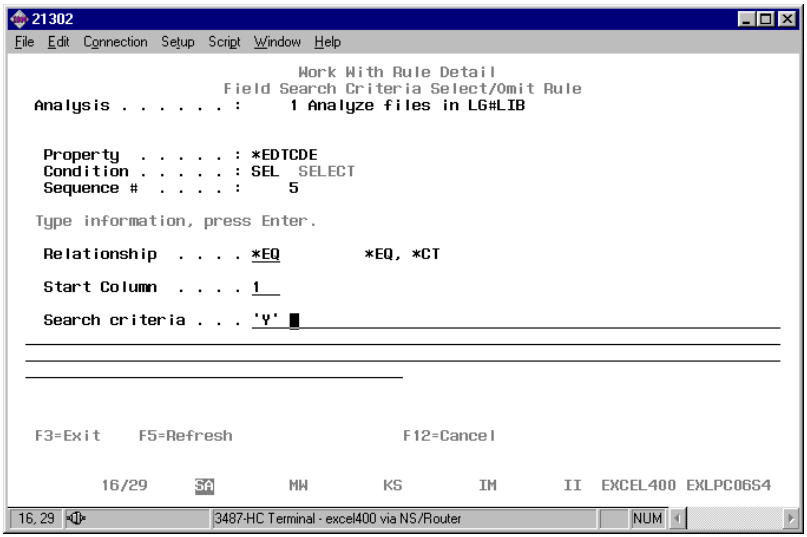
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 1 Analyze files in LG#LIB
Property . . . . . : *EDTCDE
Condition . . . . . : SEL SELECT
Sequence # . . . . : 5
Type information, press Enter.
Relationship . . . . *EQ *EQ, *CT
Start Column 1
Search criteria . . . 'Y'
F3=Exit F5=Refresh F12=Cancel
16/29 MW KS IM II EXCEL400 EXLPC06S4
16, 29
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-7.

Explanation of Panel

Relationship

Docu-Mint allows you to use two relationships: *EQ and *CT. In the case of the *EDTCDE rule, these work the same way. When the analysis is executed, Docu-Mint evaluates it's internal records for the selected file, and checks each field for the specified edit code(s).

Start Column

When using *EDTCDE Select rules, the start column should always be 1.

Search Criteria

On this line you can enter one or more edit codes to be located. Edit code entries must be enclosed in single quotes, with one space between multiple entries.

*EDTWRD Selection: Edit Word

When you build a rule of type *EDTWRD, Docu-Mint scans the field edit word entries for the specified values.

The panel presented for defining *ETDWRD selects is similar to this one:

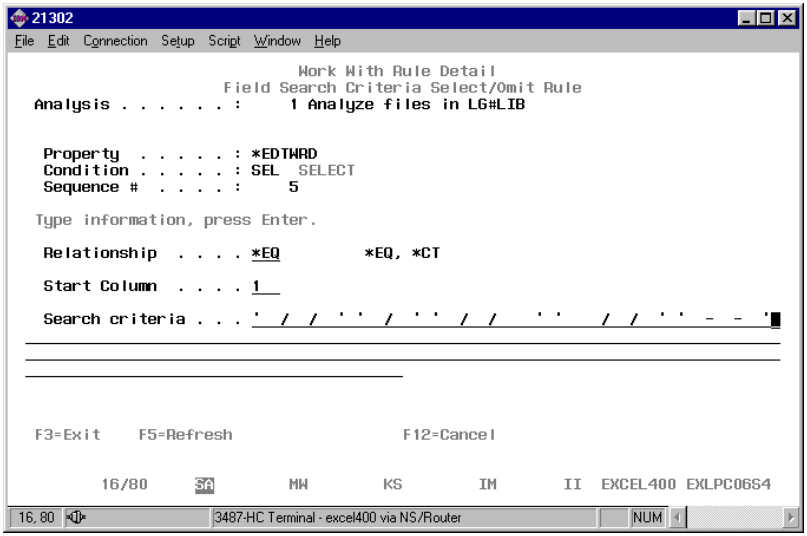
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 1 Analyze files in LG#LIB
Property . . . . . : *EDTWRD
Condition . . . . . : SEL SELECT
Sequence # . . . . : 5
Type information, press Enter.
Relationship . . . . *EQ *EQ, *CT
Start Column 1
Search criteria . . . ' / / ' ' / ' ' / / ' ' / / ' ' - - '
F3=Exit F5=Refresh F12=Cancel
16/80 SA MW KS IM II EXCEL400 EXLPC06S4
16, 80
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-8.

Explanation of Panel

Relationship

Docu-Mint supports two relationships: *EQ and *CT. If you select *EQ, Docu-Mint will evaluate each Edit Word entry beginning with the column specified, for the number of spaces of each edit word or edit word portion that you enter as a search criteria. If you select *CT, Docu-Mint will check for the entered edit word from the start column to the end of the entry. There are few situation in which *CT would be appropriate for this option.

Start Column

When using *EDTWRD, the start column should generally be 1.

Search Criteria.

On this line you can enter one or more edit words to be searched for. These must be enclosed in single quotes, with one space between multiple entries, as illustrated in the example above.

*NAME Selection: Field Name

When you build a rule of type *NAME, a panel similar to the one below is presented:

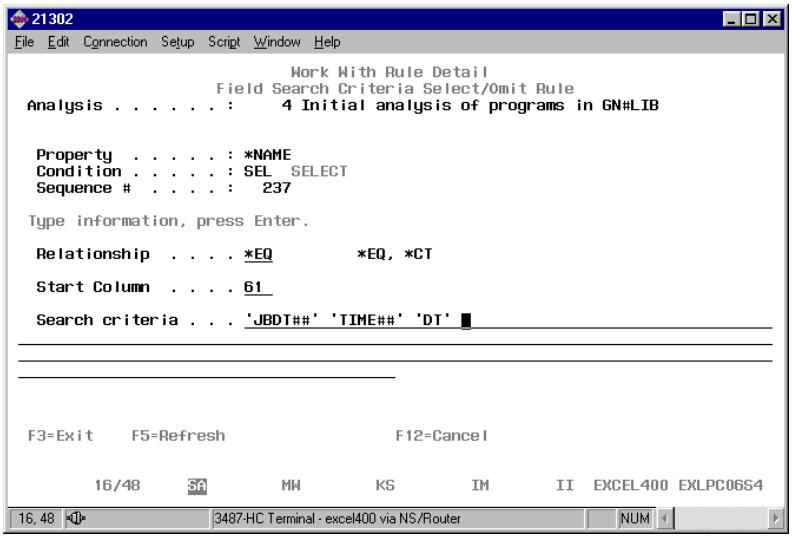
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 4 Initial analysis of programs in GN#LIB
Property . . . . . : *NAME
Condition . . . . . : SEL SELECT
Sequence # . . . . : 237
Type information, press Enter.
Relationship . . . . *EQ *EQ, *CT
Start Column 61
Search criteria . . . 'JBDT##' 'TIME##' 'DT'
F3=Exit F5=Refresh F12=Cancel
16/48 MW KS IM II EXCEL400 EXLPC06S4
16, 48
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-9.

Relationship

Two relationships can be defined in *NAME rules: *EQ and *CT. If you select *EQ, Docu-Mint will evaluate each field name beginning with the column specified, for the number of spaces of each field name, or portion of a field name that you enter. If you select *CT, Docu-Mint will search the field name using the search criteria from the start column to the end of the line.

Start Column

Enter the column at which to begin selecting the field name. See the comments above for the importance of the start column in using *EQ vs. *CT.

Search Criteria

On this line you can enter one or more field names to be located. These must be enclosed in single quotes, with one space between multiple entries. The search criteria is case sensitive.

If you specify *EQ as the relationship, Docu-Mint evaluates each line of code beginning with the column specified, for the number of characters of each of the field names entered. If you specify *CT as the relationship, Docu-Mint evaluates each line of code beginning at the start column, and to the end of the line, for each of the field names entered.

*QNAME Selection: Qualified Select/Omit Rule

*QNAME select/omit rule allows you to explicitly select or omit certain fields from the selection. The most common usage for this selection is to omit unwanted fields that have been selected by other rules.

The first step to refining the results of your selections is to define *OMIT rules to exclude certain types of fields. For example, if a *ATR rule yields a group of Customer Number fields when you're looking for dates, you could define a *NAME rule to exclude all fields where the name included 'Number' or 'Nbr'.

The panel presented for the *QNAME selection includes the file and field names. This rule is generally used for fields that satisfy one of the other selection criteria, but are not the type of field that you are specifically trying to track.

For example, in a search for 6,0 N dates, your analysis might include a single Company Number field with those attributes. Because there was only one occurrence of this field in your output, it would be easier to explicitly omit it than build an entirely new rule to do the same. Using option 4 from your field listing, you can have Docu-Mint build an explicit *QNAME omit rule.

Omitting Selected Fields

After building your list of selected fields and adding omission rules to eliminate groups of unwanted records, you can go through and select an option 4=Omit to omit specific fields from the list.

When you do this, Docu-Mint creates a *QNAME omission rule for that field. Once a field has been omitted, it can also be re-selected, which results in an explicit *QNAME rule being created for that field.

If you omit fields that you later realize you need to include, you can toggle the list of fields to those that are omitted, and use option 4=Select to build an explicit *QNAME rule to include the field back in the analysis.

*TEXT Selection: Field Text

Another rule class you can define for *FILE Selects is *TEXT, to evaluate field text entries and select those which equal or contain any of the values specified.

When you build a *TEXT rule, the panel presented is similar to this one:

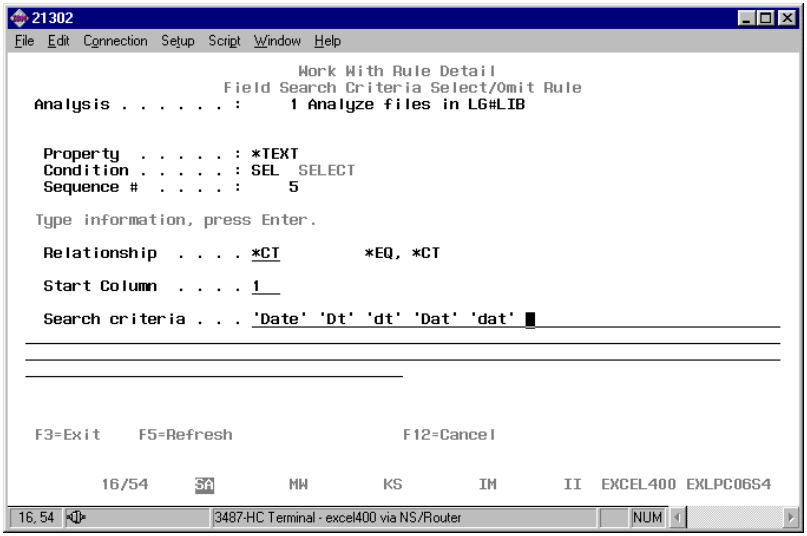
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 1 Analyze files in LG#LIB
Property . . . . . : *TEXT
Condition . . . . . : SEL SELECT
Sequence # . . . . : 5
Type information, press Enter.
Relationship . . . . *CT *EQ, *CT
Start Column 1
Search criteria . . . 'Date' 'Dt' 'dt' 'Dat' 'dat'
F3=Exit F5=Refresh F12=Cancel
16/54 MW KS IM II EXCEL400 EXLPC06S4
16, 54
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-10.

Relationship

Two relationships can be defined in *TEXT rules: *EQ and *CT. If you select *EQ Docu-Mint evaluates the field text beginning with the column specified, for the number of spaces of each portion of text that you enter. If you select *CT Docu-Mint checks for the text from the start column to the end of the line.

Start Column

Type the column at which to begin selecting the field text entry or entries. Note how this value is used in the Relationship notes immediately above.

Search Criteria

On this line you can enter one or more portions of field text to be located. These must be enclosed in single quotes, with one space between multiple entries. The search criteria is case sensitive.

If you specify *EQ as the relationship, Docu-Mint evaluates each line of field text beginning with the column specified, for the number of characters of each of the search entries. If you specify *CT as the relationship, Docu-Mint evaluates each line of field text beginning at the start column, and to the end of the line, for each of the search entries.

*TYPE Selection: Field Type

The last class of rule that you can define for *FILE Selects is *TYPE. This select allows you to define a rule that selects all fields of a specific type. The panel presented for defining this class of rule is similar to this one:

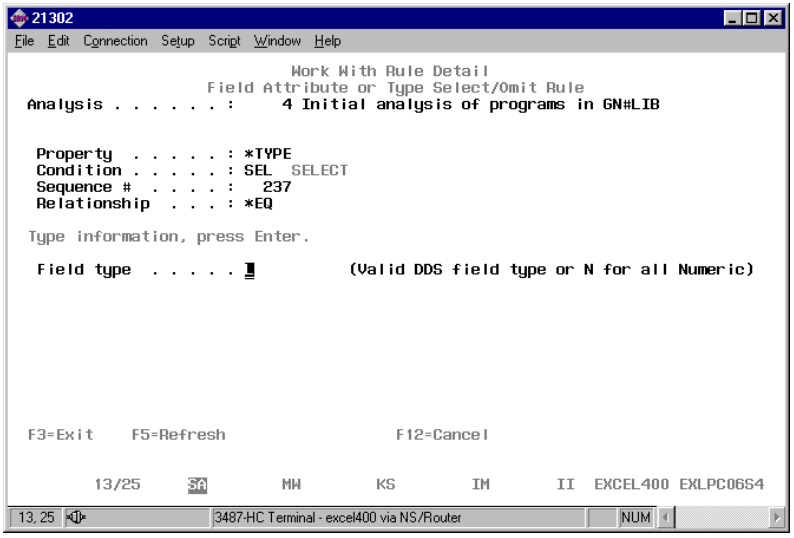
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Attribute or Type Select/Omit Rule
Analysis . . . . . : 4 Initial analysis of programs in GN#LIB
Property . . . . . : *TYPE
Condition . . . . . : SEL SELECT
Sequence # . . . . : 237
Relationship . . . : *EQ
Type information, press Enter.
Field type . . . . . (Valid DDS field type or N for all Numeric)
F3=Exit F5=Refresh F12=Cancel
13/25 MW KS IM II EXCEL400 EXLPC06S4
13, 25
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-11.

Explanation of Panel

Field Type

Enter a field type to search for. In this case, we have specified a search for all L type fields. You can specify any valid DDS field type, or N for all numeric fields.

Working with *FILE Analysis Results

After you have defined all the *FILE select rules that you need, press Enter on the **Work With SELECT Rule Detail** panel to return to the **Work With Extended Field and Program Analysis** panel (see Figure 11-1). From this panel select option 1 to execute the analysis you have defined. This will submit a batch job that analyzes the specified files. The results will include all selected and omitted fields derived from the analysis. When the job has completed, you can then select option 9 from the **Work With Extended Field and Program Analysis** panel to work with the results of your analysis.

Only one of the "select" rules needs to be satisfied to include a field. After reviewing the results of your field selections you may find several fields that should not be included in the results even though they match one or more of the select rules defined. For example, if you are searching for 6 digit date fields using a rule of **ATR *EQ 6,0 N*, you may inadvertently select time fields which also satisfy this rule. If this happens, the *time* fields can be removed from your selection using one or a combination of the techniques below:

1. Create an "omit" rule which will omit field text or column headings that contain the constant "time". A generic rule such as this will require that the analysis be executed again, clearing the previous results and building a new set of results based on the revised rules. After a field is selected it is then subject to the "omit" rules. If one omit rule is satisfied, the record will be flagged as omitted.
2. If a limited number of fields are incorrectly selected, you can explicitly omit a field using option 4=Omit field by working with the with the analysis results. By explicitly omitting fields the field is added to the list of omitted fields and a *QNAME omission rule is automatically created to ensure that the field is omitted should the analysis be executed again. This technique is generally preferable if you have already narrowed the list of fields selected by refining the select/omit rules.

When you take option 9 next to a completed *FILE analysis, the panel presented is similar to the one shown below:

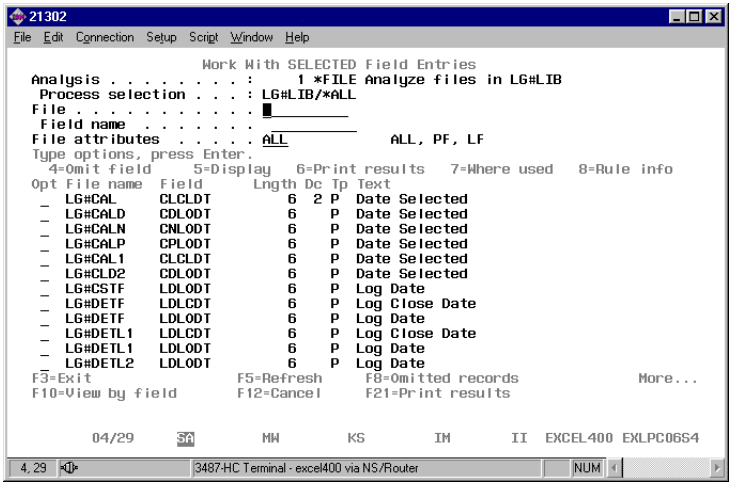
21302
File Edit Connection Setup Script Window Help
Work With SELECTED Field Entries
Analysis . . . . . : 1 *FILE Analyze files in LG#LIB
Process selection . . . : LG#LIB/*ALL
File . . . . . :
Field name . . . . . :
File attributes . . . . . ALL ALL, PF, LF
Type options, press Enter.
4=Omit field 5=Display 6=Print results 7=Where used 8=Rule info
Opt File name Field Lngth Dc Tp Text
LG#CAL CLCLDT 6 2 P Date Selected
LG#CALD CDLODT 6 P Date Selected
LG#CALN CNLODT 6 P Date Selected
LG#CALP CPLODT 6 P Date Selected
LG#CAL1 CLCLDT 6 P Date Selected
LG#CLD2 CDLODT 6 P Date Selected
LG#CSTF LDLODT 6 P Log Date
LG#DETF LDLCDT 6 P Log Close Date
LG#DETF LDLODT 6 P Log Date
LG#DETL1 LDLCDT 6 P Log Close Date
LG#DETL1 LDLODT 6 P Log Date
LG#DETL2 LDLODT 6 P Log Date
F3=Exit F5=Refresh F8=Omitted records More...
F10=View by field F12=Cancel F21=Print results
04/29 MW KS IM II EXCEL400 EXLPC065
4, 29 3487-HC Terminal - excel400 via NS/Router NUM

Figure 11-12.

Explanation of Panel

This panel initially displays a list of all the fields in the selected file or group of files which qualified for any of the rules specified.

In the example above we were searching for date fields, and have already omitted all fields selected that were not dates. Pressing F8 displays a list of the fields that have been omitted from the analysis; these included fields which had the word 'update' in the field text, or were 6,0 N, for example.

Analysis

This is the sequence number, type and description of the file analysis currently displayed.

Process Selection

The process selection is the library and files that were included in the analysis.

File/Field Names

Use these values to position the list. You can also press F10 to toggle between views by field name or file/field name.

Field Attributes

You can select whether to display fields from physical files, logical views or the default, all files.

Explanation of Options

4=Omit/Select Field

Use option 4 to explicitly omit unwanted fields from the analysis. If you press F8 to view the omitted fields, option 4 toggles to a Select action, allowing you to explicitly select fields that may have mistakenly been omitted.

5=Display

Option 5 displays additional field information, including the field name, file and library, edit code, field text and column headings.

6=Print Results

Use option 6 to print a report of the analysis results. When you select option 6, a window is presented similar to this one:

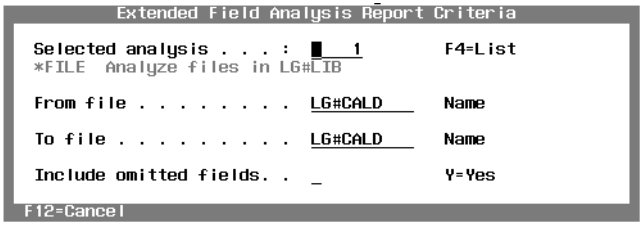

Figure 11-13.

The report will include a list of all selected fields (and optionally, the omitted ones) from the file selected, LG#CALD. To print the results for all the files selected, use Function 21 from the panel above, or change the from and to file values here to low and high values.

7=Where Used

Use option 7 to drill down and display a list of files and programs where the selected field is referenced. This option is described in more detail in the next section below.

8=Rule Info

Type option 8 next to a field to present a panel displaying the rule that selected that field.

Explanation of Functions

F8=Omitted/Selected Records

Press F8 to toggle between displaying selected vrs. omitted fields.

F10=View by Field/File Field

Press F10 to toggle between viewing the list of fields by field name, or by file/field.

F21=Print results

F21 presents a prompt similar to option 6, except defaulting to low and high values for the from and to files.

Field 'Where Used' Information (Option 7)

By selecting option 7 next to a field at the **Work With SELECTED Field Entries** panel above you can present 'where used' information for each of the fields selected by the analysis. For example, when we select option 7 next to the field LGLODT (Log Date) above, the panel below is presented:

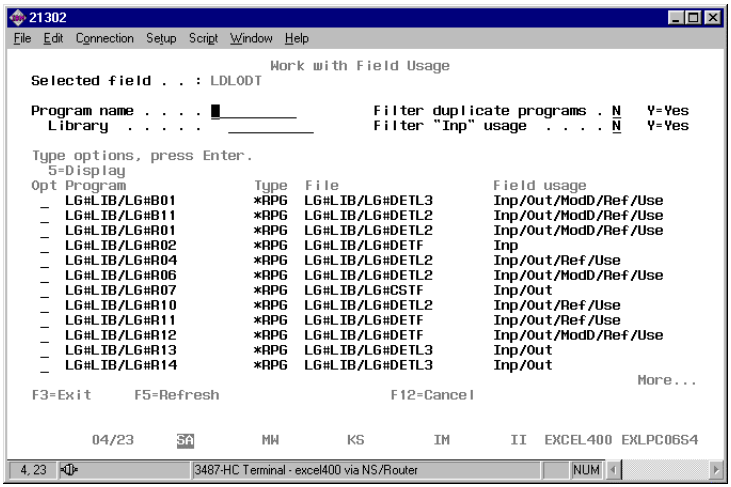
21302
File Edit Connection Setup Script Window Help
Work with Field Usage
Selected field . . : LDLODT
Program name . . . . _____ Filter duplicate programs . N Y=Yes
Library . . . . . _____ Filter "Inp" usage . . . . N Y=Yes
Type options, press Enter.
5=Display
Opt Program Type File Field usage
_ LG#LIB/LG#B01 *RPG LG#LIB/LG#DETL3 Inp/Out/ModD/Ref/Use
_ LG#LIB/LG#B11 *RPG LG#LIB/LG#DETL2 Inp/Out/ModD/Ref/Use
_ LG#LIB/LG#R01 *RPG LG#LIB/LG#DETL2 Inp/Out/ModD/Ref/Use
_ LG#LIB/LG#R02 *RPG LG#LIB/LG#DETF Inp
_ LG#LIB/LG#R04 *RPG LG#LIB/LG#DETL2 Inp/Out/Ref/Use
_ LG#LIB/LG#R06 *RPG LG#LIB/LG#DETL2 Inp/Out/ModD/Ref/Use
_ LG#LIB/LG#R07 *RPG LG#LIB/LG#CSTF Inp/Out
_ LG#LIB/LG#R10 *RPG LG#LIB/LG#DETL2 Inp/Out/Ref/Use
_ LG#LIB/LG#R11 *RPG LG#LIB/LG#DETF Inp/Out/Ref/Use
_ LG#LIB/LG#R12 *RPG LG#LIB/LG#DETF Inp/Out/ModD/Ref/Use
_ LG#LIB/LG#R13 *RPG LG#LIB/LG#DETL3 Inp/Out
_ LG#LIB/LG#R14 *RPG LG#LIB/LG#DETL3 Inp/Out
More...
F3=Exit F5=Refresh F12=Cancel
04/23 MW KS IM II EXCEL400 EXLPC065
4, 23 3487-HC Terminal - excel400 via NS/Router NUM

Figure 11-14.

Explanation of Panel

This panel displays a list of programs that use the selected field, as well as the file (physical or logical) from which the field is referenced. For example, the first line of the panel above indicates that the field was used in the program LG#B01, from the logical view LG#DETL3, both in the library LG#LIB. In that instance, the field usage was: Inp/Out/ModD/Ref/Use. Below is a description of field usage codes:

Usage Code	Description
Inp	Input
Out	Output
ModD	Modified Directly (i.e. result field of a calculation specification)
ModI	Modified Indirectly (i.e. overlapping DS subfield whose superfield has been modified)

Usage Code	Description
Ref	Reference (i.e. used as a Factor 2 of *LIKE DEFN)
Use	Used (i.e. just defined to the program. Used in Factor 1 or Factor 2 or as an index to array in a result field)

Program Name/Library

Type these values to position the list of fields.

Filter Duplicate Programs

This option comes up with an 'N' by default. Change it to 'Y' to filter out duplicate entries for the same program.

Filter 'Inp' Usage

This option comes up with an 'N' by default. If you change it to 'Y' Docu-Mint will filter out records where the field usage is Input only.

5=Display

Select option 5 to display additional information about an entry in the list.

This concludes the section on creating and working with *FILE Analyses.

Creating a *PGM Analysis

Below is the panel presented for creating and changing an extended field analysis entry of type *PGM:

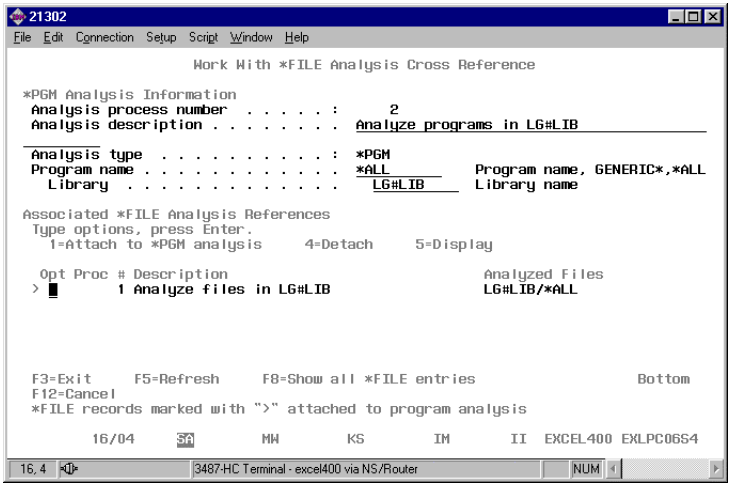
21302
File Edit Connection Setup Script Window Help
Work With *FILE Analysis Cross Reference
*PGM Analysis Information
Analysis process number . . . . . : 2
Analysis description . . . . . Analyze programs in LG#LIB
Analysis type . . . . . : *PGM
Program name . . . . . *ALL Program name, GENERIC*,*ALL
Library . . . . . LG#LIB Library name
Associated *FILE Analysis References
Type options, press Enter.
1=Attach to *PGM analysis 4=Detach 5=Display
Opt Proc # Description Analyzed Files
1 Analyze files in LG#LIB LG#LIB/*ALL
F3=Exit F5=Refresh F8=Show all *FILE entries Bottom
F12=Cancel
*FILE records marked with ">" attached to program analysis
16/04 MW KS IM II EXCEL400 EXLPC06S4
16, 4
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-15.

This panel includes the analysis type (in this case *PGM) and description, and the name of the program or set of programs the analysis is over.

Analysis Description

This is a summary description of the analysis entry.

Analysis Type

Analyses are of two types: *FILE and *PGM. These values are selected at a previous window (at creation time), and cannot be changed from this panel.

Program Name and Library

Type the program to run the analysis over. Valid values are as follows:

- An existing program name.
- A generic value such as GN#*, to analyze all programs beginning with the characters GN# in the selected library.
- *ALL, to analyze all the programs in the selected library.

Associated *FILE Analysis References

The bottom portion of this panel displays a list of existing *FILE analyses, allowing you to optionally select one or more to attach to your *PGM analysis. Press F8 to toggle the list between showing all the *FILE analyses or only the ones you have already selected. Use option 1 to select new ones.

Relationship Between *FILE and *PGM Analyses

*FILE Analysis

Each *FILE analysis will process its established rules to select fields from the file or set of files specified. After the selected field list has been reviewed and refined, the results indicate the fields and files which match the criteria defined by the rules, and are subject to change.

The *FILE analysis indicates the fields and data base files that match the selection criteria and will require a change. The *PGM analysis is then used to determine which programs are affected by the proposed file changes.

*PGM Analysis

The *PGM analysis will identify programs that are affected by the files which require a change. In addition, this analysis type identifies how the selected fields are used in these programs and indicates which lines of code are affected by the change to the file layout. To do this, when a *PGM analysis is defined, one or more *FILE analyses records are associated with the *PGM analysis. It is necessary to allow more than one *FILE analysis to be attached to a *PGM analysis because a given program or application may reference files in one or more libraries. When the programs are analyzed by Docu-Mint, the program file and field references are compared to the selected set of fields from each of the attached *FILE analyses, and if a match is found the program in question will require recompilation and may require changes to the source.

Changes to programs are further documented based on rules that are established for the *PGM analysis. For example, if six digit date fields are being selected, the *PGM analysis results will include all data base fields selected by the *FILE analyses attached *and* all internally defined numeric fields that have the attributes of 6, 0 N. The *PGM analysis determines which programs are affected and also pinpoints the source code specifications which will likely require a change.

A *PGM analysis can be done without attaching any *FILE analysis records. If this is done only the rules established for the *PGM analysis are considered when selecting affected fields. For example, you may want to analyze all programs which reference a specific data area or data structure, which have no direct reference to file fields.

Working with Rules for *PGM Analyses

After you have created a *PGM analysis entry, you can select option 7 from the **Work With Extended Field and Program Analysis** panel (Figure 11-1) to define and work with field selection rules.

The panel presented is similar to the one shown below:

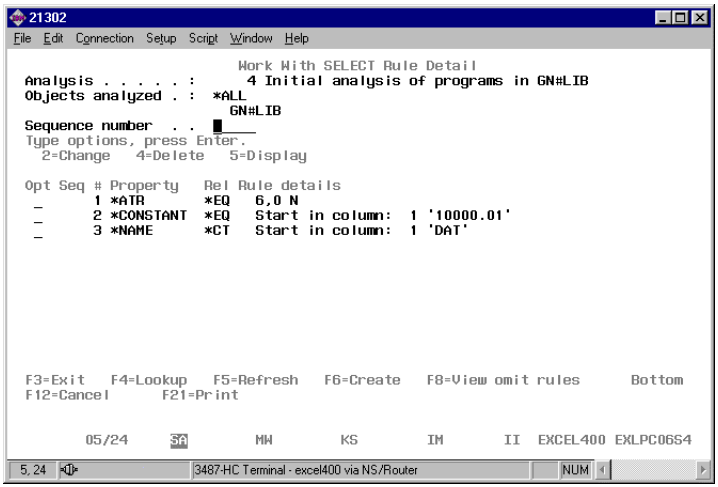
21302
File Edit Connection Setup Script Window Help
Work With SELECT Rule Detail
Analysis . . . . . : 4 Initial analysis of programs in GN#LIB
Objects analyzed . : *ALL
GN#LIB
Sequence number . .
Type options, press Enter.
2=Change 4=Delete 5=Display
Opt Seq # Property Rel Rule details
1 *ATR *EQ 6,0 N
2 *CONSTANT *EQ Start in column: 1 '10000.01'
3 *NAME *CT Start in column: 1 'DAT'
F3=Exit F4=Lookup F5=Refresh F6=Create F8=View omit rules Bottom
F12=Cancel F21=Print
05/24 MW KS IM II EXCEL400 EXLPC0654
5, 24
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-16.

Explanation of Panel

This panel displays the rules defined for the selected analysis. Press F8 to toggle between showing the Select rules and the Omit rules. To define new selection rules, press F6 from this panel.

Note that when you build multiple rules, these are applied with the equivalent to an 'OR' condition. That means that in the example above, all fields that are 6,0 N will be selected, regardless of whether field name includes the text 'Dat'.

From this panel you can also press F21 to print a list of your Select and Omit rules.

*PGM Analysis Rules

When you press F6 to define new rules for a *PGM analysis, the window below is presented:

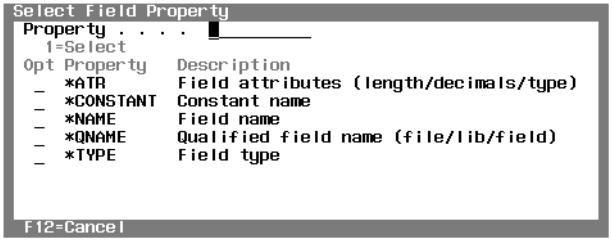

Figure 11-17.

Five types of *PGM rules are currently supported. These are:

- *ATR – Checks field attributes, including field length, decimals or type.
- *CONSTANT – Searching each line of code for a constant value.
- *NAME – Checking the field name for specified characters.
- *QNAME – Adding specific fields to the selection.
- *TYPE – Selecting certain field types.

After you choose the rule type, another window comes up to confirm your rule selection.

The *ATR, *NAME, *QNAME and *TYPE Select rules are also used by *FILE analyses, and are described in a previous section of this chapter. The *CONSTANT rule is described below.

Note that if you have selected a FILE analysis to link to, defining rules for your *PGM analysis is optional. If a *FILE analysis has been attached, then the *PGM will pull in the fields selected there.

After you (optionally) define the rules for the *PGM analysis, you can run the analysis using option 1 from the **Work With Extended Field and Program Analysis** panel.

*CONSTANT Selection: Constant Name

When you choose a rule of type *CONSTANT, a panel similar to the one below is presented:

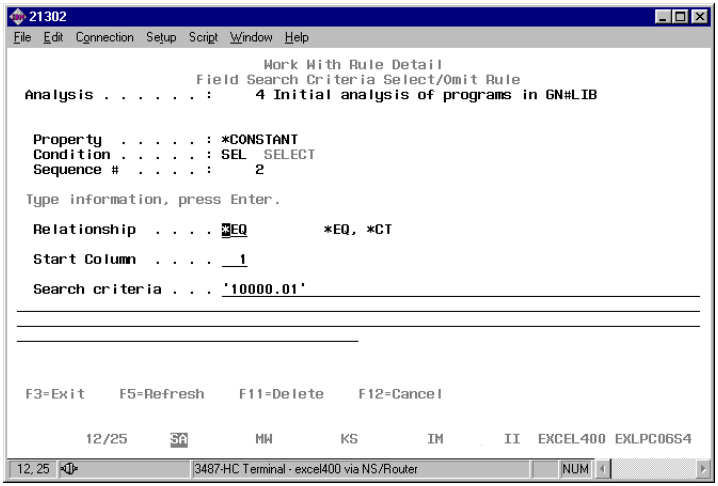
21302
File Edit Connection Setup Script Window Help
Work With Rule Detail
Field Search Criteria Select/Omit Rule
Analysis . . . . . : 4 Initial analysis of programs in GN#LIB
Property . . . . . : *CONSTANT
Condition . . . . . : SEL SELECT
Sequence # . . . . : 2
Type information, press Enter.
Relationship . . . . *EQ *EQ, *CT
Start Column 1
Search criteria . . . '10000.01'
F3=Exit F5=Refresh F11=Delete F12=Cancel
12/25 MW KS IM II EXCEL400 EXLPC06S4
12, 25
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-18.

Explanation of Panel

Relationship

Two relationships can be defined in *CONSTANT rules: *EQ and *CT. If you select *EQ, Docu-Mint will evaluate each line of code beginning with the column specified, for the number of spaces of each search criteria entry. If you select *CT, Docu-Mint will check for the search criteria from the start column to the end of the line.

Start Column

Enter the column at which to begin selecting the search criteria value. See the comments above for the importance of the start column in using *EQ vrs. *CT.

Search Criteria

On this line you can enter one or more search criteria to be searched for. These must be enclosed in single quotes, with one space between multiple entries.

If you specify *EQ as the relationship, Docu-Mint evaluates each line of code beginning with the column specified, for the number of characters of each of the values entered.

Please refer to the previous sections in this chapter on *FILE analysis rules for descriptions of how to define the remaining *PGM rules.

Working with *PGM Analysis Results

To work with the results of Docu-Mint *PGM field analysis, use option 9 from the **Work With Extended Field and Program Analysis** panel.

As described in **Working with *FILE Analysis Results,** only one of the "select" rules needs to be satisfied to include a field. After reviewing the results of your field selections you may find several fields that should not be included in the results even though they match one or more of the select rules defined. Unwanted fields can be omitted by creating a generic "omit" rule and running the analysis again, or by explicitly omitting the selected field from the results panel.

When you select option 9 to work with your results, the panel presented is similar to this one:

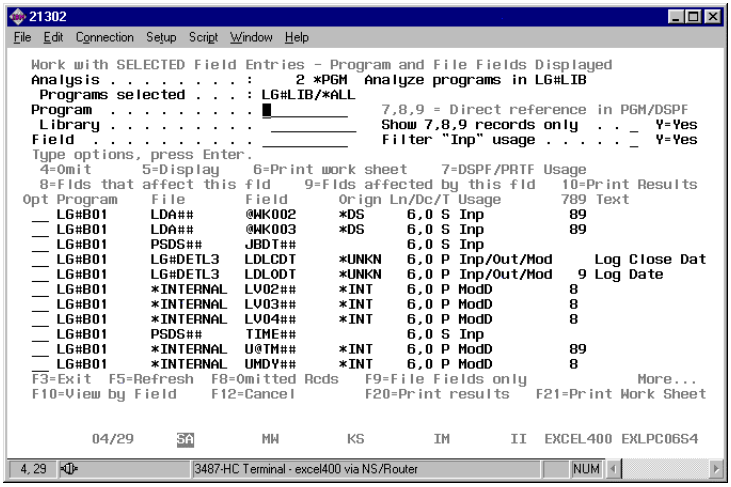
21302
File Edit Connection Setup Script Window Help
Work with SELECTED Field Entries - Program and File Fields Displayed
Analysis . . . . . : 2 *PGM Analyze programs in LG#LIB
Programs selected . . . : LG#LIB/*ALL
Program . . . . . _____ 7,8,9 = Direct reference in PGM/DSPF
Library . . . . . _____ Show 7,8,9 records only . . _ Y=Yes
Field . . . . . _____ Filter "Inp" usage . . . . . _ Y=Yes
Type options, press Enter.
4=Omit 5=Display 6=Print work sheet 7=DSPF/PRTF Usage
8=Flds that affect this fld 9=Flds affected by this fld 10=Print Results
Opt Program File Field Orign Ln/Dc/T Usage 789 Text
LG#B01 LDA## @WK002 *DS 6,0 S Inp 89
LG#B01 LDA## @WK003 *DS 6,0 S Inp 89
LG#B01 PSDS## JBDT## 6,0 S Inp
LG#B01 LG#DETL3 LDLCDT *UNKN 6,0 P Inp/Out/Mod Log Close Dat
LG#B01 LG#DETL3 LDLODT *UNKN 6,0 P Inp/Out/Mod 9 Log Date
LG#B01 *INTERNAL LV02## *INT 6,0 P ModD 8
LG#B01 *INTERNAL LV03## *INT 6,0 P ModD 8
LG#B01 *INTERNAL LV04## *INT 6,0 P ModD 8
LG#B01 PSDS## TIME## 6,0 S Inp
LG#B01 *INTERNAL U@TM## *INT 6,0 P ModD 89
LG#B01 *INTERNAL UMDY## *INT 6,0 P ModD 8
F3=Exit F5=Refresh F8=Omitted Rcds F9=File Fields only More...
F10=View by Field F12=Cancel F20=Print results F21=Print Work Sheet
04/29 MW KS IM II EXCEL400 EXLPC065
4, 29
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-19.

Explanation of Panel

This panel displays a list of the fields selected by an analysis, including the program, file and field names and the field attributes. In addition, the fourth column includes a summary of the origin of the field, and at the far right, the list includes any text associated with the field in the program or file and a summary of the usage.

Explanation of Options

Program/Library/Field

Use these fields to position the list of fields.

Show 7,8,9 Records only

In the upper right of the panel is an option that allows you turn on a filter to display only records that affect or are affected by other fields, or have printer file or display references. Type Y=Yes for this option to turn on the filter; blank the space out to turn it off.

Filter "Inp" Usage

This option allows you filter out all records which have a usage of "Inp" (Input only). Type Y=Yes into this option to activate the filter.

4=Omit/Select

Normally when you build the rules for a Select, you will include criteria that is more general than you absolutely need. For example, if you were searching for date fields in your programs, you might include a Select for all fields with the attributes 6,0 N. This will probably result in the selection of many fields that aren't dates. To omit these fields, select an option 4 next to them. This option removes the field from the selected field list and adds the field to the list of omitted fields for the analysis, by building an explicit *QNAME omit rule for the field. The *QNAME rule will ensure that this field is omitted should the analysis be executed again.

If you mistakenly omit a field that you DO want to keep in the Select list, press F8 from this panel to work with the Omit records, and use option 4=Select to explicitly include the field in the Select list. When you press F8, option 4 will toggle between a Select and an Omit, depending on what the list is currently displaying.

6=Print Worksheet

Select option 6 to print the Programmer Work Sheet. This report prints summary or detail information for each program affected by the proposed file changes. The report indicates probable source code changes that relate to fields selected by the analysis and for fields indirectly affected or affecting these fields.

7=DSPF/PRTF Usage

Use option 7 to print a list of all the fields selected for that program. Option 7 is more fully documented in a section below.

8=Fields that affect this field

Fields for which this option is valid show an 8 next to the options column. When you select option 8, Docu-Mint displays a list of the fields that affect the field selected. This option is documented in detail in a section below.

9=Fields affected by this field

Fields for which this option is valid show a 9 next to the options column. When you select option 9, Docu-Mint displays a list of the fields that the selected field affects. This option is documented in detail in a section below.

10=Print Results

Option 10 runs the File Field Listing by Program report. When you select this option next to a specific field, the report defaults to running over just the one program. An option is presented allowing you select whether to include omitted fields or not. Option 10 is illustrated in Appendix B.

Explanation of Functions

F8=Selected/Omitted Records

Press F8 to toggle between showing a list of the omitted records and the list of selected records. Toggling F8 also results in option 4 alternating between an Omit and a Select option.

F9=File Fields Only/Pgm and File Fields

Press F9 to toggle the list between showing all fields selected, or only actual file fields. This view filters out system field occurrences, such as UMDY##.

F10=View by Field/View by Pgm/Lib

F10 toggles the view of the list between the default, by program/library, and listing by field name.

F20=Print Results

Press F20 to generate a report listing all the fields resulting from this analysis, including the rules by which they were selected and/or omitted.

F21=Print Worksheet

F21 allows you to run the program field cross-reference report across multiple libraries. This report is identical to the one generated using option 6 from this panel, which is described immediately below.

Printing the Work Sheet (Option 6 from Figure 11-19)

Below is an illustration of the window presented when you select option 6 for the program LG#B01:

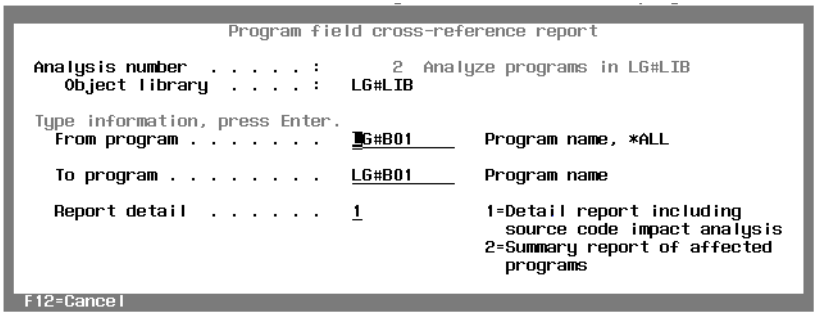
Program field cross-reference report
Analysis number . . . . . : 2 Analyze programs in LG#LIB
Object library . . . . : LG#LIB
Type information, press Enter.
From program . . . . . LG#B01 Program name, *ALL
To program . . . . . LG#B01 Program name
Report detail . . . . . 1 1=Detail report including source code impact analysis
2=Summary report of affected programs
F12=Cancel

Figure 11-20.

Explanation of Panel

From/To Program

When you present this window using option 6, the from and to values default to the name of the selected program. Valid values are a range of programs, or *ALL.

Report Detail

Select option 1 to include a source code impact analysis, and option 2 to print just a summary report of affected programs.

Section B of Chapter 9 includes an illustration of the output of the program field cross-reference report.

DSPF/PRTF Usage (Option 7 from Figure 11-19)

Fields that are used in display or printer files show a 7 in the second to rightmost column of the list. When you select option 7 next to a field for which it is valid, Docu-Mint presents a list of display or printer files where the field appears. The panel presented is similar to the one shown below:

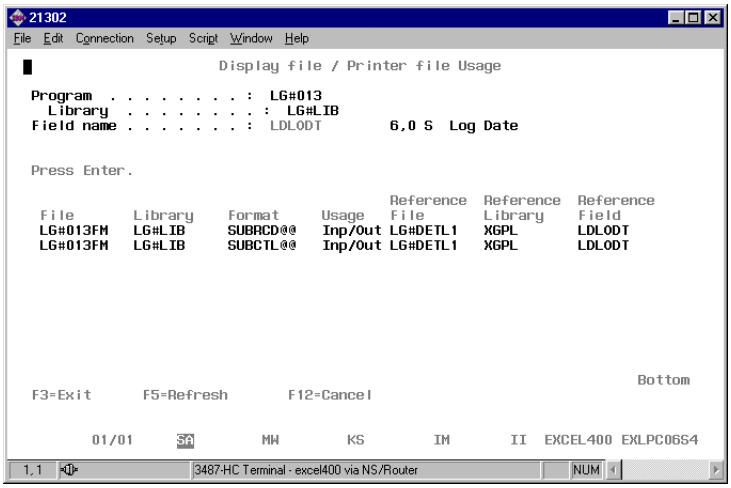
21302
File Edit Connection Setup Script Window Help
Display file / Printer file Usage
Program . . . . . : LG#013
Library . . . . . : LG#LIB
Field name . . . . . : LDLODT 6,0 S Log Date
Press Enter.
File Library Format Usage Reference File Reference Library Reference Field
LG#013FM LG#LIB SUBRCD@@ Inp/Out LG#DETL1 XGPL LDLODT
LG#013FM LG#LIB SUBCTL@@ Inp/Out LG#DETL1 XGPL LDLODT
Bottom
F3=Exit F5=Refresh F12=Cancel
01/01 MW KS IM II EXCEL400 EXLPC0654
1, 1
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-21.

Explanation of Output

This panel shows that the field LDLODT appears twice in the display file LG#013FM; once in the subfile control, and once in the subfile record portion of the panel. In each case the usage is Inp/Out. At the far right of the list is the reference file, lib and field.

Fields that Affect this Field list (Option 8 from Figure 11-19)

When you select option 8 next to a field in your SELECT list, Docu-Mint displays a list of the fields that affect the field selected.

The panel showing the list of affected fields is similar to this one:

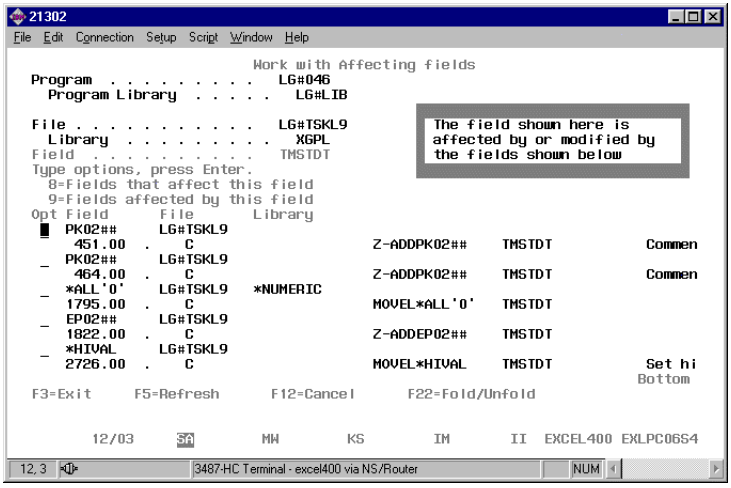
21302
File Edit Connection Setup Script Window Help
Work with Affecting fields
Program . . . . . LG#046
Program Library . . . . . LG#LIB
File . . . . . LG#TSKL9
Library . . . . . XGPL
Field . . . . . TMSTDT
The field shown here is affected by or modified by the fields shown below
Type options, press Enter.
8=Fields that affect this field
9=Fields affected by this field
Opt Field File Library
PK02## LG#TSKL9
451.00 . C Z-ADDPK02## TMSTDT Commen
PK02## LG#TSKL9
464.00 . C Z-ADDPK02## TMSTDT Commen
*ALL'0' LG#TSKL9 *NUMERIC
1795.00 . C MOVEL*ALL'0' TMSTDT
EP02## LG#TSKL9
1822.00 . C Z-ADDEP02## TMSTDT
*HIVAL LG#TSKL9
2726.00 . C MOVEL*HIVAL TMSTDT Set hi
Bottom
F3=Exit F5=Refresh F12=Cancel F22=Fold/Unfold
12/03 MW KS IM II EXCEL400 EXLPC06S4
12, 3
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-22.

Explanation of Panel

In this example, we have selected the field TMSTDT, used in the program LG#046. This field is affected or modified by the fields shown in the list portion of the panel. In this example we have pressed F22=Fold/Unfold to show the actual lines of code where the fields are affected.

8=Fields that affect this field

From this panel you can also take option 8 to drill down and see the fields that affect those that affect the original field selected.

9=Fields affected by this field

You can also use option 9 to drill up and check the fields affected by those affected by the original field selected.

F22=Fold/Unfold

Use F22 to display/hide the actual line of source referencing the field in question.

Fields Affect By this Field list (Option 9 from Figure 11-19)

When you select option 9 next to a field in your SELECT list, Docu-Mint displays a list of the fields affected by the selected field.

The panel presented when option 9 is selected is similar to this one:

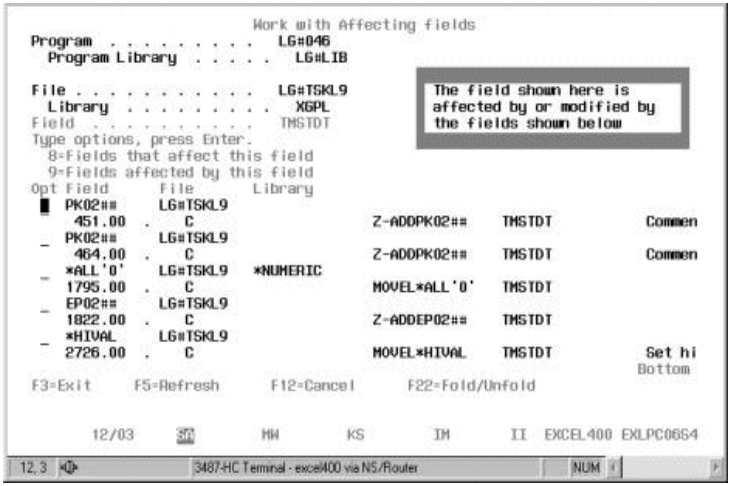
Work with Affecting fields
Program . . . . . LG#046
Program Library . . . . . LG#LIB
File . . . . . LG#TSKL9
Library . . . . . XGPL
Field . . . . . TMSTDT
Type options, press Enter.
8=Fields that affect this field
9=Fields affected by this field
The field shown here is affected by or modified by the fields shown below
Opt Field File Library
PK02## LG#TSKL9
451.00 . C Z-ADDPK02## TMSTDT Commen
PK02## LG#TSKL9
464.00 . C Z-ADDPK02## TMSTDT Commen
*ALL'0' LG#TSKL9 *NUMERIC
1795.00 . C MOVEL*ALL'0' TMSTDT
EP02## LG#TSKL9
1822.00 . C Z-ADDEP02## TMSTDT
*HIVAL LG#TSKL9
2726.00 . C MOVEL*HIVAL TMSTDT Set hi
Bottom
F3=Exit F5=Refresh F12=Cancel F22=Fold/Unfold
12/03 MW KS IM II EXCEL400 EXLPC06S4
12, 3
3487-HC Terminal - excel400 via NS/Router
NUM

Figure 11-23.

Explanation of Panel

This panel displays a list of the fields affected by the field &DATE, in the program GN#ADT. In this illustration, F22 has been pressed to show the actual lines of source code where the field &DATE affects the value of the others.

8=Fields that affect this field

From this panel you can also take option 8 again to drill down and see the fields that affect those that affect the original field selected.

9=Fields affected by this field

You can also use option 9 to see the fields affected by those that affected by the original field selected.

F22=Fold/Unfold

Use F22 to display/hide the actual line of source referencing the field in question.

CHAPTER 12

Extended Field Analysis Reports

Overview

Docu-Mint features several reports for printing the results of your *FILE and *PGM analyses. To work with these reports, you can either press F21 from the **Work with Extended Field Analysis** panel, or select option 21 from the **Docu-Mint Main Menu**. When you do this, Docu-Mint presents a list of existing analyses for you to select from. Then you are presented with a set of reports that you can select from, dependent on whether select a *FILE or *PGM analysis.

The sections below describe each of the reports available.

*FILE Analysis Reports

When you select an analysis of type *FILE, Docu-Mint presents a list of report options in a window similar to this one:

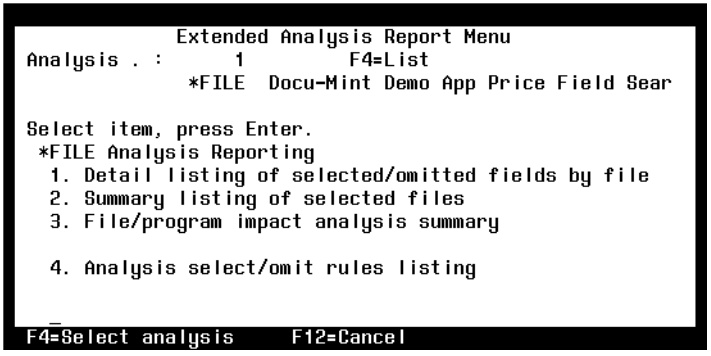
Extended Analysis Report Menu
Analysis . : 1 F4=List
*FILE Docu-Mint Demo App Price Field Sear
Select item, press Enter.
*FILE Analysis Reporting
1. Detail listing of selected/omitted fields by file
2. Summary listing of selected files
3. File/program impact analysis summary
4. Analysis select/omit rules listing
F4=Select analysis F12=Cancel

Figure 12-1.

Explanation of Options

1. Detail listing of selected/omitted fields by file

When you select option 1 an additional prompt is presented, at which you can specify a range of files to be included in the report. The default range is to print all files included in the analysis.

This report prints a list of all fields included in the selected analysis. You can optionally choose to not include fields that have been omitted. For a sample of this report with an explanation of the output, please refer to **Section 12-A: *FILE Analysis Reports** on page 195.

2. Summary listing of selected files

This report includes a summary listing of all the files included in the selected analysis. When you select this option an additional prompt window appears, at which you can specify the range of files to be included in the report. The default range is *ALL.

For a sample of this report and an explanation of the output, please refer to **Section 12-A: *FILE Analysis Reports** on page 195.

3. File/program impact analysis summary

This option prints a file change impact analysis report. This report includes a summary list of all the affected files in the selected analysis, and the programs which reference them.

Please refer to **Section 12-A: *FILE Analysis Reports** on page 195 below for a sample of this report.

4. Analysis Select/Omit Rules Listing

Use option 4 to print a list of the Select and Omit rules defined in the selected analysis. Normally this will include a smaller number of Select and Omit rules of several types, followed by a greater number of *QNAME explicit Omit rules.

Please refer to **Section 12-A: *FILE Analysis Reports** on page 195 for a sample of this report.

*PGM Analysis Reports

When you select an analysis of type *PGM, the following report menu is presented:

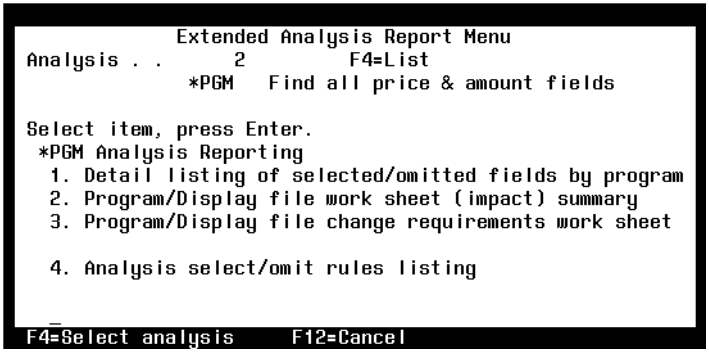
Extended Analysis Report Menu
Analysis . . 2 F4=List
*PGM Find all price & amount fields
Select item, press Enter.
*PGM Analysis Reporting
1. Detail listing of selected/omitted fields by program
2. Program/Display file work sheet (impact) summary
3. Program/Display file change requirements work sheet
4. Analysis select/omit rules listing
F4=Select analysis F12=Cancel

Figure 12-2.

Explanation of Options

Docu-Mint defaults to printing reports for the analysis that you selected, however you can also press F4 from here to select a different one. Below is an overview of the reports that can be generated for *PGM type analyses.

Detail listing of selected/omitted fields by program

Use option 1 to generate a report that includes all the fields in the *PGM analysis, including both selected and omitted fields. When you select option 1 Docu-Mint prompts you for an analysis, if one has not already been selected, and the range of programs to include.

Please refer to **Section 10-B: *PGM Analysis Reports** on page 199 for a sample of this report, with an explanation of the output.

Program/Display file work sheet (impact) summary

This option allows you to generate a summary report of all the programs and display files impacted by the fields in your analysis. When you select option 2, a panel is presented at which you can enter a beginning and ending program/library. These can be the same program or two different programs within a library. When you use option 2, the report defaults to a summary format.

Please refer to **Section 10-B: *PGM Analysis Reports** on page 199 for a sample of this report.

Program/Display file change requirements work sheet

This option allows you to generate a detail report of all the programs and display files impacted by the fields in your analysis. When you select option 2, a

panel is presented at which you can enter a beginning and ending program/library. These can be the same program, two different programs within a library.

Analysis select/omit rules listing

Use this option to print a report of all the Select/Omit rules defined in an analysis. Section 9-B below includes a sample of this report, with an explanation of the output.

Section 12-A: *FILE Analysis Reports

This section of the **Docu-Mint User's Guide** includes samples of each of the reports that can be generated for *FILE analyses.

Detail listing of selected and/or omitted fields by file (DM#307)

This report prints a list of all fields included in the selected analysis. You can optionally choose to not include fields that have been explicitly omitted.

```
10/29/97 16:00:33 *FILE Analysis Field Listing by File - Selected Fields Only
From: A To: Z
Analysis: 1 *FILE Analyze files in LG#LIB Date analyzed: 2007/10/19 11:35:50
 Objects: LG#LIB/*ALL
Field               Attributes    Text                  Rule Applied to this record
File . . . : LG#CAL     Clients/Contacts called for evaluations
Selected fields:
CLCLDT              6,2 P Date Selected *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#CALD Tech Support Evaluation Call Details/Responses
Selected fields:
CDLODT              6,0 P Date Selected *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#CALN Tech Support Evaluation Comments: G, B & N
Selected fields:
CNLODT              6,0 P Date Selected *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#CALP Tech Support Reps Who Talked to a Contact Polled
Selected fields:
CPLODT              6,0 P Date Selected *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#CAL1 Called Clients by Contact Name
Selected fields:
CLCLDT              6,0 P Date Selected *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#CLD2 Tech Support Evaluation Call Details/Responses
Selected fields:
CDLODT              6,0 P Date Selected *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#CSTF Calls Stats File
Selected fields:
LDLODT              6,0 P Log Date *ATR *EQ 6,0 N
Number of Selected fields: 1
File . . . : LG#DETF Log Details file
Selected fields:
LDLCDT              6,0 P Log Close Date *ATR *EQ 6,0 N
LDLODT              6,0 P Log Date *ATR *EQ 6,0 N
Number of Selected fields: 2
```

Summary listing of selected files (DM#310)

This report includes a summary listing of all the files included in the selected analysis.

```
10/29/97 16:        00:49 *FILE Analysis File Summary - Selected and Omitted Fields
From:               A To: Z
Analysis :          1 *FILE Analyze files in LG#LIB Date analyzed: 2007/10/19 11:35:50
Objects :           LG#LIB/*ALL
File name           Text
LG#CAL              Clients/Contacts called for evaluations
LG#CALD             Tech Support Evaluation Call Details/Responses
LG#CALN             Tech Support Evaluation Comments: G, B & N
LG#CALP             Tech Support Reps Who Talked to a Contact Polled
LG#CAL1             Called Clients by Contact Name
LG#CLD2             Tech Support Evaluation Call Details/Responses
LG#CSTF             Calls Stats File
LG#DETF             Log Details file
LG#DETL1            Log Details File by Date and Log #
LG#DETL4            Detail by date and Seq # descending
LG#DETL6            Logical view by Log number
LG#HSTF             Log Report history file
LG#HSTL1            History by Date and Time
LG#HSTL2            History by User, Date and Time
LG#HSTL3            History by Report, Date and Time
LG#OBCF             Object Change Log
LG#OBCL1            Object Changes by Obj, Chg #
LG#OBCL2            Object changes by Task, Obj, Chg #
LG#OBJF             Object master file
LG#OBJL1            Object Master by Object name and type
LG#OBJL2            Object Master by Type and Name
LG#OBJL3            Object Master by Size and Name
LG#OBJL4            Object Master by creation Date/time
LG#QRYF             Join of Customer/Client/Details
LG#TSKF             Task Master File
LG#TSKL1            Task Master by Task #
LG#TSKL2            Task Master by Task Description
LG#TSKL3            Task Master, Bugs by Description
LG#TSKL6            Tasks by Commencement Date
LG#TSKL8            Task by product/description
LG#TSKL9            Open tasks by Product/descending date logged
LG#TXTF             Log Text File
LG#TXTL1            Log Text File by Date, Log# and Line#
LG#XRFF             Log - Task X reference File
LG#XRFL1            Task/ Call X-ref by Task #
LG#XRFL4            View by task num# and log#
Total files 44
```

File/program impact analysis summary (DM#311)

This option prints a file change impact analysis report. This report includes a list of all the files in the selected analysis, and the programs which reference them.

```
10/29/97 16:00:58 File Change Impact Analysis Report Page 1
Analysis: 1 *FILE Analyze files in LG#LIB Date Analyzed: 2007/10/19 11:35:50
Objects: LG#LIB/*ALL
File                    Library
                      ProgramLibraryTypeTextSource_Lib/File(Mbr)
LG#CAL                  LG#LIB PF Clients/Contacts called for evaluations XGPL/
QDDSSRC(LG#CAL)
** No programs referenced by this file **
LG#CALD                 LG#LIB PF Tech Support Evaluation Call DetailsXGPL/QDDSSRC(LG#CALD)
** No programs referenced by this file **
LG#CLTF                 LG#LIB PF Client Master File XGPL/QDDSSRC(LG#CLTF)
** No programs referenced by this file **
LG#CLTF6                LG#LIB LF View by customer number XGPL/QDDSSRC(LG#CLTF6)
** No programs referenced by this file **
LG#CLTJ1                LG#LIB LF Join of Client and Contact XGPL/QDDSSRC(LG#CLTJ1)
** No programs referenced by this file **
LG#CLTL1                LG#LIB LF Client File by Client Number XGPL/QDDSSRC(LG#CLTL1)
                     LG#B01 LG#LIB RPG Collect Contact Stats LG#LIB/QRPGSRC(LG#B01)
                     LG#B04 LG#LIB RPG Batch file to make search ID LG#LIB/QRPGSRC(LG#B04)
                     LG#R01 LG#LIB RPG Call report for BCD LG#LIB/QRPGSRC(LG#R01)
                     LG#R06 LG#LIB RPG Trial Call report for BCD LG#LIB/QRPGSRC(LG#R06)
                     LG#R13 LG#LIB RPG Call stats by Contact LG#LIB/QRPGSRC(LG#R13)
                     LG#0B2 LG#LIB RPG Log Text (shadow of lg#002) LG#LIB/QRPGSRC(LG#0B2)
                     LG#001 LG#LIB RPG Log Calls LG#LIB/QRPGSRC(LG#001)
                     LG#002 LG#LIB RPG Log Text LG#LIB/QRPGSRC(LG#002)
                     LG#005 LG#LIB RPG Add Contact/Client LG#LIB/QRPGSRC(LG#005)
                     LG#006 LG#LIB RPG Change Client LG#LIB/QRPGSRC(LG#006)
                     LG#009 LG#LIB RPG Change Contact LG#LIB/QRPGSRC(LG#009)
                     LG#010 LG#LIB RPG Add Contact LG#LIB/QRPGSRC(LG#010)
                     LG#012 LG#LIB RPG All Calls By Day LG#LIB/QRPGSRC(LG#012)
                     LG#013 LG#LIB RPG Calls with date LG#LIB/QRPGSRC(LG#013)
                     LG#015 LG#LIB RPG Contact Maintenance LG#LIB/QRPGSRC(LG#015)
                     LG#016 LG#LIB RPG View Contact History LG#LIB/QRPGSRC(LG#016)
                     LG#017 LG#LIB RPG Change contact/client LG#LIB/QRPGSRC(LG#017)
                     LG#018 LG#LIB RPG Select Caller LG#LIB/QRPGSRC(LG#018)
                     LG#026 LG#LIB RPG Maintain Contact Information LG#LIB/QRPGSRC(LG#026)
                     LG#027 LG#LIB RPG Client Comment Maintenance LG#LIB/QRPGSRC(LG#027)
                     LG#043 LG#LIB RPG Tasks for this call LG#LIB/QRPGSRC(LG#043)
                     LG#044 LG#LIB RPG Calls for this task LG#LIB/QRPGSRC(LG#044)
                     LG#060 LG#LIB RPG Merge Contacts LG#LIB/QRPGSRC(LG#060)
                     LG#061 LG#LIB RPG Select Contact/Client for Merging LG#LIB/
QRPGSRC(LG#061)
                     LG#107 LG#LIB RPG Call Containing Search String in Text LG#LIB/
QRPGSRC(LG#107)
                     LG#302 LG#LIB RPG Program to collect calls from tasks LG#LIB/
QRPGSRC(LG#302)
                     LG#305 LG#LIB RPG Client maintenance LG#LIB/QRPGSRC(LG#305)
                     LG#306 LG#LIB RPG Client information display LG#LIB/QRPGSRC(LG#306)
                     LG#307 LG#LIB RPG Client maintenance LG#LIB/QRPGSRC(LG#307)

Number of programs referenced by file 29
```

Analysis Select/Omit Rules Listing (DM#306)

This report prints a list of the Select and Omit rules defined in the selected analysis.

```
10/29/97 16:00:40                  Rule Detail Listing                              Page 1

Analysis.........: 1 *FILE Analyze files in LG#LIB
Objects Analyzed.: *ALL
                     LG#LIB
Sequence                  PropertyRelRule Details
                    1   SEL *ATR*EQ 6,0 N
                    2   SEL *COLHDG*CT 1 'date' 'Date' 'DATE' 'YYMM' 'MMDD' 'DATE'
                    3   SEL *EDTCDE*EQ 'Y'
                    4   SEL *EDTWRD*CT '/'
                    5   SEL *TEXT*CT 1 'Date' 'Dt' 'dt' 'Dat' 'dat'
                    6   OMIT*TEXT*CT 1 'Number' 'number' 'client' 'Client' 'Contact'
                    7   OMIT*TYPE*EQ A
                    8   OMIT*QNAME*EQ LG#LIB/LG#CALD CDDWNU
                    9   OMIT*QNAME*EQ LG#LIB/LG#CLD2 CDDWNU
                   10   OMIT*QNAME *EQ LG#LIB/LG#COMF CCCLNU
                   11   OMIT*QNAME *EQ LG#LIB/LG#TSKF TMUPID
                   12   OMIT*QNAME *EQ LG#LIB/LG#TSKL1 TMUPID
                   13   OMIT*QNAME *EQ LG#LIB/LG#TSKL2 TMUPID
                   14   OMIT*QNAME *EQ LG#LIB/LG#TSKL3 TMUPID
                   15   OMIT*QNAME *EQ LG#LIB/LG#TSKL4 TMUPID
                   16   OMIT*QNAME *EQ LG#LIB/LG#TSKL5 TMUPID
                   17   OMIT*QNAME *EQ LG#LIB/LG#TSKL6 TMUPID
                   18   OMIT*QNAME *EQ LG#LIB/LG#TSKL8 TMUPID
                   19   OMIT*QNAME *EQ LG#LIB/LG#TSKL9 TMUPID
                   20   OMIT*QNAME *EQ LG#LIB/QCLSRC SRCDAT
                   21   OMIT*QNAME *EQ LG#LIB/QCMDSRC SRCDAT
                   22   OMIT*QNAME *EQ LG#LIB/QDDSSRC SRCDAT
                   23   OMIT*QNAME *EQ LG#LIB/QRPGSRC SRCDAT
```

Section 10-B: *PGM Analysis Reports

This section of the Docu-Mint User's Guide includes samples of each of the reports that can be generated for *FILE analyses.

Detail listing of selected/omitted fields by program (DM#308)

This report includes all the fields in the *PGM analysis, including both selected and omitted fields (if required; in this example we have only included selected fields).

```
10/29/97 16:01:11 *PGM Analysis File Field Listing by Program - Selected Fields Only Page 1
From program: A To program: Z
Analysis : 2 *PGM Analyze programs in LG#LIB Date analyzed: 2007/10/21
Objects :LG#LIB/*ALL
File                FieldAttributesField text Rule Applied to This Record
Program . . . : LG#B01 Collect Contact Stats
Selected fields:
*INTERNAL           LV02## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           LV03## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           LV04## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           U@TM## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           UMDY## 6,0 P *ATR *EQ 6,0 N
LDA##               @WK002 6,0 S *ATR *EQ 6,0 N
LDA##               @WK003 6,0 S *ATR *EQ 6,0 N
LG#DETL3            LDLCDT6,0 P Log Close Date *ATR *EQ 6,0 N
LG#DETL3            LDLODT 6,0 PLog Date *ATR *EQ 6,0 N
PSDS##              JBDT## 6,0 S *ATR *EQ 6,0 N
PSDS##              TIME## 6,0 S *ATR *EQ 6,0 N
Number of Selected fields: 11

Program . . . : LG#B04 Batch file to make search ID
Selected fields:
*DS0005             JBDT## 6,0 S *ATR *EQ 6,0 N
*DS0005             TIME## 6,0 S *ATR *EQ 6,0 N
*INTERNAL           LV01## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           LV02## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           UMDY## 6,0 P *ATR *EQ 6,0 N
Number of Selected fields: 5

Program . . . : LG#B11 Count Details in Range
Selected fields:
*DS0004             JBDT## 6,0 S *ATR *EQ 6,0 N
*DS0004             TIME## 6,0 S *ATR *EQ 6,0 N
*INTERNAL           EP01## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           EP02## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           LV02## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           UMDY## 6,0 P *ATR *EQ 6,0 N
LG#DETL2            LDLODT 6,0 P Log Date *ATR *EQ 6,0 N
Number of Selected fields: 7

10/29/97 16:01:11 *PGM Analysis File Field Listing by Program - Selected Fields Only Page 1
From program: A To program: Z
Analysis : 2 *PGM Analyze programs in LG#LIB Date analyzed: 2007/10/21
Objects :LG#LIB/*ALL
File                Field Attributes Field text Rule Applied to This Record
Program . . . : LG#L02 Select Dates for Log Report
Selected fields:
*INTERNAL           @WK004 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @WK006 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @WK009 6,0 P *ATR *EQ 6,0 N
```

```
*INTERNAL           UMDY## 6,0 P *ATR *EQ 6,0 N
*LITERAL            000000 6,0 P *ATR *EQ 6,0 N
LG#HSTL3            LHDADT 6,0 P Date Performed *ATR *EQ 6,0 N
LG#L02FM            @WK005 6,0 S *ATR *EQ 6,0 N
LG#L02FM            @WK008 6,0 S *ATR *EQ 6,0 N
PSDS##              JBDT## 6,0 S *ATR *EQ 6,0 N
PSDS##              TIME## 6,0 S *ATR *EQ 6,0 N
Number of Selected fields: 13

Program . . . : LG#L04 Enter Date Range for Stats
Selected fields:
*INTERNAL           @DAT## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @V001# 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @V002# 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @WK002 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @WK004 6,0 P *ATR *EQ 6,0 N
*INTERNAL           UMDY## 6,0 P *ATR *EQ 6,0 N
LG#HSTF             LHDADT 6,0 P Date Performed *ATR *EQ 6,0 N
LG#L04FM            @WK001 6,0 S *ATR *EQ 6,0 N
LG#L04FM            @WK003 6,0 S *ATR *EQ 6,0 N
PSDS##              JBDT## 6,0 S *ATR *EQ 6,0 N
PSDS##              TIME## 6,0 S *ATR *EQ 6,0 N
Number of Selected fields: 11

Program . . . : LG#L11 Enter Date Range for Stats
Selected fields:
*INTERNAL           @DAT## 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @V001# 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @V002# 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @WK002 6,0 P *ATR *EQ 6,0 N
*INTERNAL           @WK004 6,0 P *ATR *EQ 6,0 N
*INTERNAL           UMDY## 6,0 P *ATR *EQ 6,0 N
LG#HSTF             LHDADT 6,0 P Date Performed *ATR *EQ 6,0 N
LG#L11FM            @WK001 6,0 S *ATR *EQ 6,0 N
LG#L11FM            @WK003 6,0 S *ATR *EQ 6,0 N
PSDS##              JBDT## 6,0 S *ATR *EQ 6,0 N
PSDS##              TIME## 6,0 S *ATR *EQ6,0 N
```

Program/Display file work sheet (impact) summary [FLDTOFLD]

This option allows you to create a summary report of all the programs and display files impacted by the fields in your analysis. When you use this option to generate the report, it initially defaults to printing a summary report.

```
11/03/97   9:05:14              Program Change Requirements Work Sheet
                  Page 1
                                          Summary
                          From program:CMLIB/*ALL      To program:CMLIB/*ALL
Process: 3 *PGM CM# programs in CMLIB
 Analysis date: 2007/10/31 14:07:22
Program:             CM#CMSConvert DSPMSGD outfile to dbf CD#MSGF Source: CMLIB/
QRPGSRC(CM#CMS)
                     Approximate number of lines of RPG code to change: 2
                     No DDS code changes required.
                     Files used: CD#ULDF CMLIB SEU activity detail - child to CD#ULGF
                               SOURCE *LIBL SEU activity detail - child to CD#ULGF

Program: CM#LDT Log detailed source changes to CM#ULDF Source: CMLIB/QRPGSRC(CM#LDT)
                     Approximate number of lines of RPG code to change: 2
                     No DDS code changes required.
                     Files used: CD#ULGF CMLIB Compile and edit control file for source
                               CD#CMPF CMLIB Compile and edit control file for source

Program: CM#LED Log Edit (STRSEU) stuff Source: CMLIB/QRPGSRC(CM#LED)
                     Approximate number of lines of RPG code to change: 2
                     No DDS code changes required.
                     Files used: CD#CMPL1 CMLIB By User id/activity date
                               CM#LGIFM CMLIB Display log of compile attempts and SEU
attempts

Program: CM#PSS Shell Source Modification Listing Source: CMLIB/QRPGSRC(CM#PSS)
                     Approximate number of lines of RPG code to change: 4
                     No DDS code changes required.
                     Files used: F@@UPDAT *LIBL Shell Source Modification Listing
                               CD#ULGL3 ASYS Shell Source Modification Listing
                               CM#UL1FM CMLIB SEU Transactions by User Display File
```

```
11/03/97 9:05:14              Program Change Requirements Work Sheet              Page 2
Summary
From program:CMLIB/*ALL To program:CMLIB/*ALL
Process: 3 *PGM CM# programs in CMLIB
_Analysis_date:_2007/10/31_14:07:22_____________________________________________________

Program: CM#UL1 SEU Transactions by User Source: CMLIB/QRPGSRC(CM#UL1)
               Approximate number of lines of RPG code to change: 17
               Approximate number of lines of DDS code to change: 3
               Files used:   F@@UPDAT *LIBL SEU Transactions by User
                             CD#ULGL2 ASYS SEU Transactions by User
                             CM#UL2FM CMLIB Source Changes Inquiry By User ID Display File

Program: CM#UL2 Source Changes Inquiry By User ID Source: CMLIB/QRPGSRC(CM#UL2)
               Approximate number of lines of RPG code to change: 2
               No DDS code changes required.
               Files used:   F@@UPDAT *LIBL Source Changes Inquiry By User ID
                             CD#ULGL1 ASYS Source Changes Inquiry By User ID
                             CM#UL3FM CMLIB Source Member Change History Display File

Program: CM#VDT Shell Source Modification Tracking Source: CMLIB/QRPGSRC(CM#VDT)
               Approximate number of lines of RPG code to change: 2
               Approximate number of lines of DDS code to change: 1
               Files used:   CD#MSGF CMLIB Message file management file
                             F@@UPDAT *LIBL Message file management file
                             CD#MSPF CMLIB Message file parameter management file
                             CM#WMDFM CMLIB Work With Message Data Fields Display File

Program: CM#WMD Work With Message Data Fields Source: CMLIB/QRPGSRC(CM#WMD)
               No RPG code changes required.
               No DDS code changes required.
               Files used:   CD#LUMF CMLIB Last used message file by User iD
                             CD#MSPF CMLIB Message file parameter management file
                             F@@UPDAT *LIBL Message file parameter management file
                             CD#MSGF CMLIB Message file management file
                             CM#WMSFM CMLIB Work With Messages Display File
```

Program/Display file change requirements work sheet [FLDTOFLD]

This option allows you to create a detailed report of all the programs and display files impacted by the fields in your analysis. When you use this option to generate the report, it initially defaults to printing a summary report.

```
11/03/97 8:38:29              Program Change Requirements Work               Sheet Page 1
From program:CMLIB/*ALL To program:CMLIB/*ALL
Process: 3 *PGM CM# programs in CMLIB
_Analysis_date:_2007/10/31_14:07:22_____________________________________________________
Program: CM#CMS Convert DSPMSGD outfile to dbf CD#MSGF Source: CMLIB/QRPGSRC(CM#CMS)
Field______File_____________Field_____File_______Orign_Src_Seq#_Source_Code_______________

Direct_field_references_____________________________________________________________________
MFCHGD CD#MSGF 6,0 P Change date
     Is affected or modified by the following fields:
          CHGDAT *INTERNAL *INT 124.00 C MOVELCHGDAT MFCHGD

MFCRTD CD#MSGF 6,0 P Create date
     Is affected or modified by the following fields:
          CRTDAT *INTERNAL *INT 123.00 C MOVELCRTDAT MFCRTD

Program: CM#LDT Log detailed source changes to CM#ULDF Source: CMLIB/QRPGSRC(CM#LDT)
UDACDT CD#ULDF 6,0 P Date saved
     Is affected or modified by the following fields:
          UDATE *INTERNAL *INT 48.00 C UDATE MULT 10000.01 UDACDT 60
          10000.01 *LITERAL *INT 48.00 C UDATE MULT 10000.01 UDACDT 60

Program: CM#LED Log Edit (STRSEU) stuff Source: CMLIB/QRPGSRC(CM#LED)
CPACDT CD#CMPF 6,0 P ACTIVITY DATE
     Is affected or modified by the following fields:
          JOBDAT *INTERNAL *INT 62.00 C Z-ADDJOBDAT CPACDT
          ULACDT CD#ULGF 6,0 P ACTIVITY DATE
     Is affected or modified by the following fields:
          JOBDAT *INTERNAL *INT 99.00 C Z-ADDJOBDAT ULACDT
     Is affected or modified by the following fields:
          100.0001*LITERAL *INT 57.00 C MULT 100.0001 CPACDT YMD->MDY
     Is used in the following display/printer formats
          CM#LGIFM CMLIB SUB
          CPACDT CD#CMPF 6,0 P ACTIVITY DATE
     Is affected or modified by the following fields:
          100.0001 *LITERAL *INT 57.00 C MULT 100.0001 CPACDT YMD->MDY
     Is used in the following display/printer formats
          CM#LGIFM CMLIB SUB
```

Analysis select/omit rules listing (DM#306)

Use this option to print a report of all the Select/Omit rules defined in an analysis.

```
10/29/97    16:00:40                 Rule Detail Listing                              Page
1
Analysis.........: 1 *PGM Analyze files in LG#LIB
Objects Analyzed.: *ALL
                      LG#LIB
Sequence                  PropertyRel Rule Details
                       1 SEL *ATR *EQ 6,0 N
                       2 SEL *COLHDG *CT 1 'date' 'Date' 'DATE' 'YYMM' 'MMDD' 'DATE'
                       3 SEL *EDTCDE *EQ 'Y'
                       4 SEL *EDTWRD *CT '/'
                       5 SEL *TEXT *CT 1 'Date' 'Dt' 'dt' 'Dat' 'dat'
                       6 OMIT*TEXT *CT 1 'Number' 'number' 'client' 'Client' 'Contact'
                       7 OMIT *TYPE *EQ A
                       8 OMIT *QNAME *EQ LG#LIB/LG#CALD CDDWNU
                       9 OMIT *QNAME *EQ LG#LIB/LG#CLD2 CDDWNU
                      10 OMIT *QNAME *EQ LG#LIB/LG#COMF CCCLNU
                      11 OMIT *QNAME *EQ LG#LIB/LG#TSKF TMUPID
                      12 OMIT *QNAME *EQ LG#LIB/LG#TSKL1 TMUPID
                      13 OMIT *QNAME *EQ LG#LIB/LG#TSKL2 TMUPID
                      14 OMIT *QNAME *EQ LG#LIB/LG#TSKL3 TMUPID
                      15 OMIT *QNAME *EQ LG#LIB/LG#TSKL4 TMUPID
                      16 OMIT *QNAME *EQ LG#LIB/LG#TSKL5 TMUPID
                      17 OMIT *QNAME *EQ LG#LIB/LG#TSKL6 TMUPID
                      18 OMIT *QNAME *EQ LG#LIB/LG#TSKL8 TMUPID
                      19 OMIT *QNAME *EQ LG#LIB/LG#TSKL9 TMUPID
                      20 OMIT *QNAME *EQ LG#LIB/QCLSRC SRCDAT
                      21 OMIT *QNAME *EQ LG#LIB/QCMDSRC SRCDAT
                      22 OMIT *QNAME *EQ LG#LIB/QDDSSRC SRCDAT
                      23 OMIT *QNAME *EQ LG#LIB/QRPGSRC SRCDAT
```

SECTION

V

Docu-Mint Command Reference

In this Section:

Chapter 13 - Docu-Mint Command Reference

CHAPTER 13

Docu-Mint Command Reference

This section of the manual includes descriptions of the commands in Docu-Mint, and the valid parameters for each of the commands. Use this section of the manual for detailed reference information on the command parameters; Chapter 1 to Chapter 12 should be used as a general user's reference in day to day utilization of the software.

The commands in this section of the manual are listed in alphabetical order.

CHGDOCCTL Command

The **Change Docu-Mint Control Data** command presents a display which allows you to customize Docu-Mint to display your company's name on Docu-Mint's displays and reports, as well as control whether the splash screen is first presented when you run the STRDOC command.

Change Docu-Mint Control Data may be initiated in one of the following ways:

- Selecting option 1 from Docu-Mint menu DM#CFG (Menu DM#CFG can be reached by selecting option 4 from menu DM#MAIN).
- Execute command CHGDOCCTL from a command line.

For an illustration of the panel presented when you run the CHGDOCCTL command, and an explanation of how to use that panel, please refer to Chapter 9, **Menu DM#CFG: Docu-Mint Configuration**.

CHGDOCDFT Command

The **Change Docu-Mint Defaults** command presents a display which allows you to select default values used by various operations within Docu-Mint.

Change Docu-Mint Defaults may be initiated in one of the following ways:

- Execute command CHGDOCDFT from a command line
- Pressing F18 from one of Docu-Mint's Change Session Defaults displays.

When you run the CHGDOCDFT command, the panel below is presented:

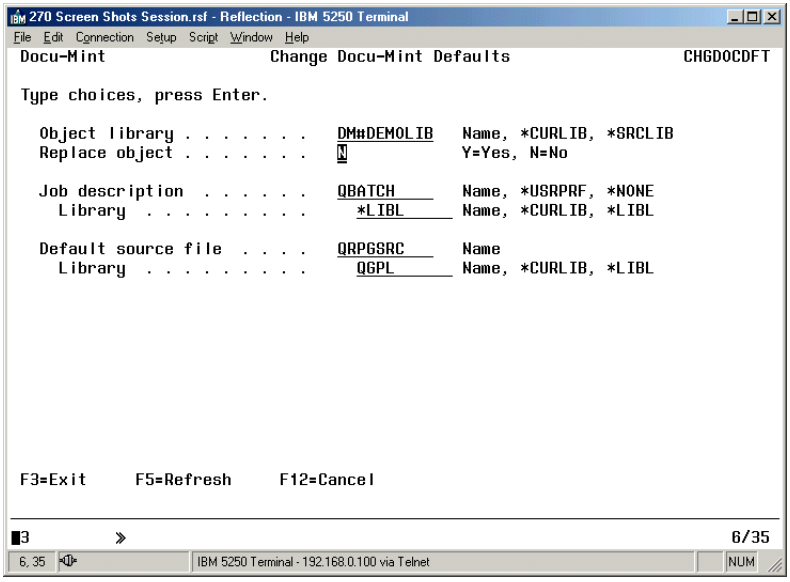
270 Screen Shots Session.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Docu-Mint Change Docu-Mint Defaults CHGDOCDFT
Type choices, press Enter.
Object library . . . . . DM#DEMOLIB Name, *CURLIB, *SRCLIB
Replace object . . . . . N Y=Yes, N=No
Job description . . . . . QBATCH Name, *USRPRF, *NONE
Library . . . . . *LIBL Name, *CURLIB, *LIBL
Default source file . . . . QRPGSRC Name
Library . . . . . QGPL Name, *CURLIB, *LIBL
F3=Exit F5=Refresh F12=Cancel
3
6/35
6, 35
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 13-1.

Object library

Type the name of the library where you want to place objects resulting from a compilation if the Compile option is entered. This parameter can accept a single library name or the special value *CURLIB.

Replace object

Use this prompt to indicate that you want to delete the existing object and replace it with the new object created when you compile. Enter a 'Y' to delete the existing object before starting to compile. If the compilation fails, the object is not restored. Enter an 'N' if you do not want to delete the existing object before starting to compile.

Job description

Use this prompt to specify the name of the job description to use for submitting a job in batch mode. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB.

Default source file

Use this prompt to specify the name of the source file to use when Docu-Mint options do not have a source file to work with. For example, when using the Copy option on a source member, Docu-Mint will default the target source file to the value from this prompt.

CHGLIBATR Command

Parameters:	Keyword	Description	Valid values
	LIB	Valid library values	Library whose attributes will be changed
	GROUP	Value to associate to a library	Any valid group name
	DLTOM	Library master record deletion indicator	***YES**, *NO, *SAME
	ACTION	Action to take for selected lib	***LOAD**, *REMOVE, *NONE, *SAME
	RMVLVL	Library removal level for action REMOVE	***XREF**, *ALL

The **Change Library Attributes** command is used to change Docu-Mint specific attributes associated with a library name.

Change Library Attributes may be initiated in one of the following ways:

- Selecting option 2 from Docu-Mint menu DM#CFG. (Menu DM#CFG can be reached by selecting option 4 from menu DM#MAIN).
- Selecting option 14 from the Work with System Libraries (WWL) panel.
- Executing the command CHGLIBATR from a command line.

Command Parameters

LIB

Specify the name of the library whose (Docu-Mint related) attributes will be changed to the values specified by the remaining parameter values. Enter a library name and press Enter to bring up the current attributes associated with the library. You may then make any necessary changes and press Enter again to accept the new values.

Note: Many of the following parameters accept the two special values *NONE and *SAME which work the same way for each parameter. *NONE will clear

the attribute associated with the parameter. *SAME will retain the value of the attribute associated with the parameter.

GROUP
Used to associate a group name to the library. By assigning the same group name to a related set of libraries, the user may then refer to this set of libraries by a single group name. Group names are allowed in the Start Library Analysis (STRLIBANZ) command. This parameter will accept a group name, or a special value of *NONE or *SAME.

DLTOM
Used to indicate whether or not an object's master record (in file DOBJMP) should be deleted if the object is no longer found in the library during a library analysis. Normally this value would be *YES but could be set to *NO if you want to keep a history of any objects that have been in the library. Valid entries for this parameter are: *NO, *YES or *SAME.

ACTION
The ACTION parm indicates what action to take if the library is selected by the Start Library Analysis (STRLIBANZ) command. This parameter value is the same value as that used by the Mark Library (MRKLIB) command. Valid entries for this parameter are: *LOAD, *REMOVE, *NONE or *SAME.

This attribute will automatically be reset to *NONE by a *successful* run of Start Library Analysis.

RMVLVL
The Remove Level parm specifies to what level records are to be removed from the cross reference files during an ACTION(*REMOVE). A value of *XREF will remove object cross reference records but leave the object master record (in file DOBJMP). A value of *ALL will remove both cross reference records and the object master record removing all traces of the object from Docu-Mint's files.

CLRPGMXREF Command

Parameters:	Keyword	Description	Valid values
	LIBRARY	Library the X-Ref records will be cleared for	Library name
	RGXPFM	Reorganize X-Ref file	***YES**, *NO
	JOBD	Batch job description	***USRPRF**, Valid job description

The STRLIBANZ command contains as an additional parameter an option to collect extended field reference information. The keyword for this parameter on the command is FLDXREF and the default is *YES. This information, if collected, facilitates the use of the Extended Field Analysis Module (option 20 from the Main Menu). If the FLDXREF parameter is left as *YES a significant number of records will be collected by the STRLIBANZ command which are processed by the Extended Field Analysis Module. If you do not intend to use the Extended Field Analysis Module, or you have already completed an Extended Analysis, you may want to purge the program/field cross-reference records from this file, as they are not used in other Docu-Mint modules.

The CLRPGMXREF command is a stand-alone command that allows you to clear program/field cross-reference data collected by the STRLIBANZ command. This command will delete records from this file for a specified library or for all libraries. After the records are purged the file is reorganized for optimum performance and DASD utilization. This is useful in conserving storage utilization. If this data were required at a later date, the library would need to be removed via the STRLIBANZ command and subsequently loaded again by the same command.

Command Parameters

LIBRARY

This is the library for which the internal field cross-reference information will be cleared.

RGZPFM

Select *YES to have Docu-Mint reorganize the physical file member after removing the selected records belonging to the specified library. You must specify *YES if you want to take advantage of the disk space savings produced by removing the selected records from the file.

CMPPGMDBF Command

Parameters:	Keyword	Description	Valid values
	PGMNAM	Program name & lib to be analyzed.	Pgm Name, Generic* or *ALL.
	DBFLIB	Library containing database files to compare to.	Lib Name, or + to enter multiple.
	PRTALL	Print a listing of all programs, or only errors	***ALL**, *ERR
	JOBD	Batch job description.	Job description name, *NONE.

When preparing software for distribution or moving programs into production it may be necessary to ensure that each program has been compiled over data base files contained in the production library or libraries. The CMPPGMDBF command will compare the file libraries referenced in a program object with one or more libraries defined in the command. The comparison will highlight any programs that have been compiled using files other than those specified on the command. This command does not require the program object library to be analyzed.

You can run the CMPPGMDBF command directly from a command line, or by selection option 18 from the **Work with System Libraries** (WWL) panel.

Command Parameters

Program name and library

Enter the program name and library to be analyzed by this command. You can process multiple programs using a generic name or all programs in the specified library.

Comparison DBF object library

Type the name of the library or libraries used to compare against the data base file library referenced by the program. To enter more libraries type a "+" in the library name and press enter. A maximum of 10 libraries can be used for comparison.

Program objects to print

*ERR will print an exception report listing only those programs that references files in libraries other than those specified in the command. *ALL will print all programs identifying those in error.

Batch job description

Type the name of the job description referenced on the submit job command. This will identify the job queue that the process is submitted to. Type *NONE if you want to run this process interactively.

CMPPGMINF Command

Parameters:	Keyword	Description	Valid values
	PGMNAM	Program name & lib to be analyzed.	Pgm Name, Generic* or *ALL.
	CMPREL	Compare target OS/400 release level	***NO**, value in format VxRxMx
	CMPSRCL	Compare to specific source library	***NONE**, source library name
	CMPOBS	Flag observable programs	***YES**, *NO
	CMPLOGCL	Flag CL programs with logging	***YES**, *NO
	CMPRTVCLS	Flag programs with RTVCLSRC	***YES**, *NO
	CMPSRC	Compare objects to source date	***YES**, *NO
	PRTALL	Print a listing of all programs, or only errors	***ALL**, *ERR
	JOBD	Batch job description.	Job description name, *NONE.

If you are preparing software for distribution or simply want to make sure that the program objects in your production library have been compiled using the latest source code change or reference the correct file layouts, the compare program information command will be useful. This command extracts information about program objects in the library specified. It then compares that information with the values identified on the command parameters and generates a report identifying exceptions to the values specified on the command.

You can run the CMPPGMINF command directly from a command line, or by selecting option 11 from the **Work with Analyzed Objects** (WWO) panel.

Command Parameters

Program name and library

The program can be identified as a specific program, generic program name or *ALL programs in a library. The library name parameter identifies the library containing the *PGM objects (not the source).

Flag rcds not at release level

If you want to identify the programs that do not match a specific OS/400 release level enter the OS/400 release level compare value in the format of VxRxMx where V is the OS/400 version, R is the release level and M is the modification level. For example, release V4R5M0 is version 4, release 5, modification level 0. If specify *NO for this parameter, no comparison to the program release level will be made.

Compare program source library

If you want to make sure that the program objects being processed were compiled using members from a specific source file library enter the name of the source library. For example, you may want to confirm that all of your program objects in your production object library have been compiled from

source files in PRODSRC. To do this, enter the production source library. Any exceptions will be noted on the report. *NONE will omit this comparison.

Flag observable programs

This parameter will flag any observable programs as being in error. Often when programs are packaged for distribution, observability is removed.

Entering *YES for this parameter will generate an exception if any programs have observability. *NO will omit this comparison.

Flag CL programs with logging

This parameter will note any CL programs that are set to enable logging of the CL commands executed by the program. Often when CL programs are packaged for distribution it is desirable to have CL logging set to *NO.

Entering *YES for this parameter will generate an exception if any CL logging is enabled. *NO will omit this comparison.

Flag PGMS with RTVCLSRC

This parameter will note any CL programs for which source can be retrieved using the RTVCLSRC command. Often when CL programs are packaged for distribution it is important that the source code cannot be retrieved.

Entering *YES for this parameter will generate an exception if any CL program source can be retrieved. *NO will omit this comparison.

Compare object to source date

This parameter will flag in error any programs where the source member used to compile the program has been changed more recently than the program object. This may indicate an out of date program object that needs to be recompiled. *NO will omit this comparison.

Program objects to print

Type *ALL to print all objects processed by the command. Type *ERR to print only those objects that have failed one or more of the comparisons described above.

Batch job description

Type the name of the job description referenced on the submit job command. This will identify the job queue that the process is submitted to. Type *NONE if you want to run this process interactively.

DBFFLDXREF Command

Parameters:	Keyword	Description	Valid values
	FILE	1 to 10 sets of files for cross referencing	File name, GENERIC*, *ALL
	FIELD	1 to 10 sets of field names	Field name, GENERIC*, *ALL
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Database File Field Cross Reference** command produces a report of field definitions within externally described files. The report will list, for all field names requested in the files specified, a cross reference list of the fields and all files containing each field.

The Database File Field Cross Reference report may be requested in one of the following ways:

- Selecting option 2 from Docu-Mint menu DM#FLD (Menu DM#FLD can be reached by selecting option 3 from menu DM#MAIN).
- Execute command DBFFLDXREF from a command line.

Command Parameters

FILE

Specify up to ten sets of files whose fields should be cross referenced with the fields specified in the Field name (FIELD) parameter. Each parameter occurrence can accept a single file name, a generic* name or the special value *ALL. The library entry can accept a library name or one of the following special values: *LIBL, *USRLIBL or *ALLUSR.

FIELD

Specify up to ten sets of field name values to be cross referenced with the files specified in the File name (FILE) parameter. Each parameter occurrence can accept a single field name, a generic* name or the special value *ALL.

JOBD

Specify the name of the batch job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB. Due to the potential of a long running job, use of the special value *NONE is not recommended.

Database File Field Cross Reference Report

The Database File Field Cross Reference report is created with the following spool file attributes:

- Spooled file: FILE(QSYSPRT)
- User data: USRDTA('DbfFldXref')

DBFLAYO Command

Parameters:	Keyword	Description	Valid values
	FILE	Files to include in the report	File name, GENERIC*, *ALL
	FILETYPE	Physical, Logical or all files	***DBF**, *PF, *LF
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Database File Layouts** command produces a report listing file and field information including:

File Attribute Information	Field Attribute Information
Type (*physical or logical*)	Field names
Description	Attributes (character, numeric, binary, packed, etc.)
Record format	File buffer positions
Access path	Usage (input, output, both, neither)
Select/omit (*logical files only*)	Description
Based on files (*logical files only*)	Reference fields
Dependent files (*physical files only*)	

The Database File Layouts report may be requested in one of the following ways:

- Selecting option 2 from Docu-Mint menu DM#FILE.
- Execute command DBFLAYO from a command line.

Command Parameters

FILE

Specify the files to include on the report. This parameter can accept a single file name, a generic* name or the special value *ALL. The library entry must be a valid library name.

FILETYPE

The File Type parameter controls whether the files specified in the File (FILE) parameter should be limited to physical files only (*PF), logical files only (*LF) or all database files (*DBF).

JOBD

The name of the job description to run the report under. This parm can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB. Due to the potential of a long running job, use of the special value *NONE is not recommended.

Database File Layouts Report

The Database File Layouts report is created with the following spool file attributes: Spooled file: FILE(QSYSPRT), and User data: USRDTA('DBFLayo').

DOCILESRC Command

Parameters:	Keyword	Description	Valid values
	SRCFIL	Source file and library	Source file and library name, or *LIBL
	SRCMBR	Source member name	***ALL**, existing ILE source member
	COPYMBR	Copy member before conversion	***YES**, *NO
	CPYSRCFIL	Copy to source file (if *YES above)	**QCPYLESRC**, source file and library
	CPYTOMBR	Copy to member name	***FROMMBR**, member name
	RMVSPEC	Remove spec from comments	***YES**, *NO
	CVTOLWR	Make C comments lower case	***YES**, *NO
	HILITE	Highlight C specs	***YES**, *NO
	JOBD	Batch job description	**QBATCH**, job description name, *NONE

The DOCILESRC command is used to enhance ILE source code (typically source code that has recently been converted to ILE using IBM's CVTRPGSRC). When you run DOCILESRC over an ILE source member, the following changes are made:

- Field definitions are consolidated into D-Specs.
- Comment lines are converted to high intensity.
- IF and DO structures are documented, etc.

If you have any concerns about the changes made to your source member, you can also select an option to copy the selected member before executing the changes.

Command Parameters

Source File and Library

Type the source file and library containing the ILE member(s) to be formatted.

Source Member Name

Enter the name of the source member to be formatted, or *ALL to format all the members in the selected source file.

Copy member before conversion

Select this option if you want to make a backup copy of the source member to be converted, before executing the conversion. If you select *YES for this option, when you press Enter an additional option is presented, allowing you to specify a member name, source file and library to copy to.

Remove spec from comments

Set this option to *YES to remove the spec (C, D, etc.) from comment lines.

Make C comments lower case

This option allows you to change all your C spec comments to lower case.

Highlight C specs

Use this to indicate that you want to highlight the C specs in your source member(s).

DOCOBJ or DOCxxx Commands

Parameters:	Keyword	Description	Valid values
	OBJ	Any OS/400 object.	OS/400 object name
	OBJTYPE	Any OS/400 object type. This parm is available for DOCOBJ only.	Valid OS/400 object type
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Document Objects** command (and related commands DOCCMD, DOCFILE, DOCMENU, DOCPGM, DOCPROC, DOCQRY and DOCUSRPRF) initiates an analysis of an object or group of objects of a single type within a library. The same degree of analysis is done as that produced by the Start Library Analysis (STRLIBANZ) command, the difference being that all objects requested by a DOCxxx command will be analyzed even if the object was successfully analyzed previously and has not been changed or recompiled since. These commands are useful if you have changed only a few objects and want those changes immediately reflected in the cross reference files.

Please note that these commands *do not produce a report*. Their function is to maintain the cross reference files used by the various Docu-Mint on-line and reporting modules. The Object Analysis Errors Report (PRTANZERR) or the System Object Directory (SYSOBJDIR) may be used after documenting objects in order to determine if Docu-Mint had any difficulties in analyzing the requested objects.

Document Objects (and related commands) may be initiated in one of the following ways:

- Selecting options 1 through 16 from Docu-Mint menu DM#ANZ. (Menu DM#ANZ can be reached by selecting option 30 from menu DM#MAIN).
- Execute command DOCxxx from a command line.

Command Parameters

OBJ, CMD, FILE, MENU, PGM, PROC, QRY, USRPRF

Specify the objects to be documented. This parameter can accept a single object name, a generic* name or the special value *ALL. The library entry must be a valid library name.

OBJTYPE

Specify a valid OS/400 object type. This parameter is available for the DOCOBJ command only.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB.

DOCPGM Parm: FLDXREF

The DOCPGM command has an additional parameter (available by pressing F10 from the command prompt) which allows you to set whether or not you want records written to the internal Extended Field Analysis files when you document a program. The reason this option is available is that the number of records written is quite large, and if you aren't using the extended field analysis functions, you may choose not to build those records. Valid value are *YES and *NO.

DSPFLAYO Command

Parameters:	Keyword	Description	Valid values
	DSPF	Display File	Display file name, GENERIC*, *ALL
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Display File Layouts** command produces a report showing display file samples along with field, constant and keyword information about the display file.

The Display File Layouts report may be requested in one of the following ways:

- Selecting option 3 from Docu-Mint menu DM#FILE. (Menu DM#FILE can be reached by selecting option 20 from menu DM#ANZ).
- Execute command DSPFLAYO from a command line.

Command Parameters

DSPF

Specify the display files to include on the report. This parameter can accept a single file name, a generic* name or the special value *ALL. The library entry must be a valid library name.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB.

Database File Layouts Report

The Database File Layouts report is created with the following spool file attributes:

- Spooled file: FILE(QSYSPRT)
- User data: USRDTA('DspfLayo)

INDCLSRC Command

Parameters:	Keyword	Description	Valid values
	SRCMBR	Source member name	Valid CL source member
	SRCFILE	Source file name	Valid CL source file
	STRSEQ	Starting sequence number	Sequence number low value (1+), ***FIRST**
	ENDSEQ	Ending sequence number	Sequence number high value, ***LAST**
	SYMBOL	Character used to join matching DO/ENDDO commands	Any valid keyboard character, **'|'**
	OUTPUT	Controls whether to display or print	*****, *PRINT
	PAGEBRK	Controls whether to print report headings at the top of each page.	***NO**, *YES

The **Indent CL Source** command produces an indented listing of a CLP source member. The list will identify related DO/ENDDO commands, connecting them with a separator character, and indenting any commands nested within the DO/ENDDO pair.

Indent CL Source may be initiated in one of the following ways:

- Selecting option 2 from Docu-Mint menu DM#UTL. (Menu DM#UTL can be reached by selecting option 4 from menu DM#MAIN).
- Execute command INDCLSRC from a command line.
- Type IND on a subfile option line.

Command Parameters

SRCMBR

Specify the name of the CL source member to indent.

SRCFILE

Specify the name of the source file where the CL source member is located. The library qualifier must be a valid library name or the special value *LIBL.

STRSEQ

The starting sequence number parameter is used in conjunction with the Ending sequence number (ENDSEQ) parameter to identify a range of CL source records to be indented. Enter one of the following for the STRSEQ parameter:

- A source sequence number of the first CL source record to process.
- *FIRST to process the first record in the source member.

ENDSEQ

The ending sequence number parameter is used in conjunction with the Starting sequence number (STRSEQ) parameter to identify a range of CL source records to be indented. Enter one of the following for the ENDSEQ parameter:

- A source sequence number of the last CL source record to process.
- *LAST to process the source member through the last record.

SYMBOL

Specifies the character used to join matching DO/ENDDO commands.

OUTPUT

Controls whether to display or print the indented CL source member. This parameter accepts a value of * (Display) or *PRINT (Print).

PAGEBRK

When printing the indented CL source, this parameter controls whether or not to print a report heading at the top of each page (*YES) or to print through the page perforations (*NO). Due to the nature of the report, it is sometimes easier to follow the flow of the indented listing if the report headings are suppressed after the first page. This parm accepts a value of *NO or *YES.

INDRPGSRC Command

Parameters:	Keyword	Description	Valid values
	SRCMBR	Source member name	Valid RPG source member
	SRCFILE	Source file name	Valid RPG source file
	STRSEQ	Starting sequence number	Sequence number low value, ***FIRST**, *CALCS
	ENDSEQ	Ending sequence number	Sequence number high value, ***LAST**
	SYMBOL	Character used to join matching DO/ENDDO commands	Any valid keyboard character, **'|'**
	OUTPUT	Controls whether to display or print	*****, *PRINT
	PAGEBRK	Controls whether to print report headings at the top of each page.	***NO**, *YES
	HILITE	Highlight comment statements	***YES**, *NO

The **Indent RPG Source** command produces an indented listing of an RPG source member. The list will identify related DOxxx/END[DO], IFxx/END[IF] and SELEC/WHxx/END[SL] operation codes, connecting them with a separator character, and indenting any statements within the structured code.

Indent RPG Source may be initiated in one of the following ways:

- Selecting option 3 from Docu-Mint menu DM#UTL. (Menu DM#UTL can be reached by selecting option 4 from menu DM#MAIN).
- Execute command INDRPGSRC from a command line.
- Type IND on a subfile option line.

Command Parameters

SRCMBR

Specify the name of the RPG source member to indent.

SRCFILE

Specify the name of the source file where the RPG source member is located. The library qualifier must be a valid library name or the special value *LIBL.

STRSEQ

This parameter is used in conjunction with the Ending sequence number (ENDSEQ) parameter to identify a range of RPG source records to be indented. Enter one of the following for the STRSEQ parameter:

- A source sequence number of the first RPG source record to process.
- *FIRST to process the first record in the source member.
- *CALCS to limit the report to calculation specifications and compile time array/table entries.

ENDSEQ

This parameter is used in conjunction with the Starting sequence number (STRSEQ) parameter to identify a range of RPG source records to be indented. Enter one of the following for the ENDSEQ parameter:

- A source sequence number of the last RPG source record to process.
- *LAST to process the source member through the last record.

SYMBOL

This character is used to join matching structured programming operation codes.

COLUMNS

Specifies how many characters to indent. This parameter accepts a numeric value of 0 through 5 with the suggested default being 2. A value of 0 will suppress indentation giving you the equivalent of a source listing.

OUTPUT

Controls whether to display or print the indented RPG source member. This parameter accepts a value of * (Display) or *PRINT (Print).

PAGEBRK

When printing the indented RPG source, this parameter controls whether or not to print a report heading at the top of each page (*YES) or to print through the page perforations (*NO). Due to the nature of the report, it is sometimes easier to follow the flow of the indented listing if the report headings are suppressed after the first page. This parameter accepts a value of *NO or *YES.

HILITE

When displaying the indented RPG source, this parameter controls whether or not comment statements will appear highlighted ("DSPATR(HI)") at the workstation. This parameter accepts a value of *NO or YES.

LDA Command

The **Edit Local Data Area** command allows you to view and work with the contents of the local data area and job switches from a display file rather than making a blind change through the Change Data Area command. This command is easy to run from a command line and can be easily called from a program as a useful debugging tool.

Edit Local Data Area may be initiated in one of the following ways:

- Selecting option 4 from Docu-Mint menu DM#UTL.
- Execute command LDA from a command line.

For a description of the panels presented when you run the LDA command, and how to use them, please refer to **Option 4 – Edit Local Data Area** on page 128.

MRKLIB Command

Parameters:	Keyword	Description	Valid values
	LIB	Valid library values	Library name to be flagged for analysis
	ACTION	Action to take for selected lib	***LOAD**, *REMOVE, *NONE
	RMVLVL	Library removal level	***XREF**, *ALL

The **Mark Library** command is used to flag a library to be loaded into (or optionally, removed from) Docu-Mint's cross reference files by a subsequent run of the Start Library Analysis (STRLIBANZ) command. Marking a library takes only a few seconds and does not do any analysis of the library's contents. Any number of libraries may be marked during the course of the day and then analyzed by a single execution of Start Library Analysis. No harm is done if a library is marked multiple times before it is finally analyzed and will only be analyzed once.

After the library has been loaded or removed by running the Start Library Analysis command, the library's flag will automatically be cleared. If any errors occur during the library analysis, the library's load or remove flag will be retained.

Mark Library may be initiated in one of the following ways:

- Selecting options 8 (*LOAD) or 9 (*REMOVE) from the **Work with System Libraries** panel.
- Selecting option 1 from Docu-Mint menu DM#LIB. (Menu DM#LIB can be reached by selecting option 1 from menu DM#MAIN).
- Execute command MRKLIB from a command line.

Command Parameters

LIB

Specify the name of the library to be flagged for later analysis.

ACTION

Indicates what action to take if the library is selected by the Start Library Analysis (STRLIBANZ) command. This parameter value is the same value as that used by the Change Library Attributes (CHGLIBATR) command. Valid entries for this parameter are: *LOAD, *REMOVE or *NONE (Unmark the library). The default value is *LOAD.

RMVLVL

Specifies to what level records are to be removed from the cross reference files during an ACTION(*REMOVE). A value of *XREF will remove object cross reference records but leave the object master record (in file DOBJMP). A value of *ALL will remove both cross reference records and the object master record removing all traces of the object from Docu-Mint's files. The default value is *XREF.

PGMEXPINQ Command

Parameters:	Keyword	Description	Valid values
	OBJNAM	Object name	Object name
	OBJLIB	Object library	Library name, *LIBL
	OBJTYPE	Object type	***PGM**, *MODULE

This command allows you to view a list of programs called by a selected RPG/400 or ILE RPG program. You can run this command directly from a command line, or select option 8 from the DM#PGM menu. At the command prompt, enter the object name, library and type (*PGM, *MODULE), and press Enter.

The DM#PGM menu and the panels presented by the PGMEXPINQ command are described in detail in **Option 22 – Menu DM#PGM: Program Documentation** on page 149.

PGMFLDXREF Command

Parameters:	Keyword	Description	Valid values
	FILE	1-10 sets of files to include in report	File name, GENERIC*, *ALL, *LIBL, *USRLIBL, *ALLUSR
	RPGSRCF	1-10 RPG source files to analyze for file usage	Library name, *LIBL
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Program Field Cross Reference** command produces a report of field usage within RPG programs. Up to ten sets of files may be cross referenced against the programs in up to ten separate RPG source files. The report will list, for each field in the file(s) specified, the name of the RPG program(s) referencing the field (or *NONE if no programs use the field) along with a mnemonic indicating how the field is used within that particular program (such as ADD, INP, etc.).

The Program Field Cross Reference report may be requested in one of the following ways:

- Selecting option 1 from Docu-Mint menu DM#FLD (Menu DM#FLD can be reached by selecting option 3 from menu DM#MAIN).
- Execute command PGMFLDXREF from a command line.

Command Parameters

FILE

Specify up to ten sets of files whose fields should be included on the report. Each parameter occurrence can accept a single file name, a generic* name or the special value *ALL. The library entry can accept a library name or one of the following special values: *LIBL, *USRLIBL or *ALLUSR.

RPGSRCF

Specify up to ten RPG source files whose programs should be analyzed for field usage from the files specified in the Data file (FILE) parameter. Each parameter occurrence can accept a source file name. The library entry can accept a library name or the special value *LIBL.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB. Due to the potential of a long running job, use of the special value *NONE is not recommended.

Program Field Cross Reference Report

The Program Field Cross Reference report is created with the following spool file attributes: Spooled file FILE(QSYSPRT) and User data USRDTA('PgmFldXref').

PRTANZERR Command

Parameters:	Keyword	Description	Valid values
	LIB	Library	Library name, ***ALL**

The **Print Analysis Errors** command produces a report of objects Docu-Mint was unable to analyze properly. Information included on the report includes the object name, library, type, attribute and source data along with an error message id and a brief description of the error. This report will help you take the proper measures to obtain a clean analysis of the objects on your system.

You can work with your analysis errors in the following ways:

- Use option 10 from the **Work with System Libraries** (WWL) panel to present an interactive display listing the errors, from which you can create alternate source file rules.
- Selecting option 3 from Docu-Mint menu DM#LIB. (Menu DM#LIB can be reached by selecting option 1 from menu DM#MAIN)
- Execute command PRTANZERR from a command line.

Command Parameters

LIB

Specify the library whose analyzed objects will be included on the report. This parameter will accept a single library name or the special value *ALL.

Program Field Cross Reference Report

The Print Analysis Errors report is created with the following spool file attributes:

- Spooled file: FILE(QSYSPRT)
- User data: USRDTA('PrtAnzErr')

PRTMNUEXP Command

Parameters:	Keyword	Description	Valid values
	MENU	Name of menus to include in report	Menu name, GENERIC*, ***ALL**
	EXPLODE	Explode menu options	***YES**, *NO
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Menu Explosion Report** command produces a report listing menu images, options and optionally, exploded source listings of the commands and programs each menu step calls. If you request to explode the menu options, the following guidelines are used in the program explosions:

- If the option or a CL program executes a non-IBM command, the command processing program for the command will be exploded.
- CL programs will be entirely exploded.
- RPG program explosions will list only File specifications and CALL statements. Programs called within RPG programs will be exploded according to their type.

Other program types will list only the program and the fact that it is being called.

The Menu Explosion Report may be requested in one of the following ways:

- Selecting option 2 or 3 from Docu-Mint menu DM#MENU (Menu DM#MENU can be reached by selecting option 21 from menu DM#ANZ).
- Execute command PRTMNUEXP from a command line.

Command Parameters

MENU

Specify the menus to include on the report. This parameter can accept a single menu name, a generic* name or the special value *ALL. The library entry must be a valid library name.

EXPLODE

Controls whether or not to explode the programs executed by the menu options. This parameter accepts a value of *NO or *YES.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or

*CURLIB. Due to the potential of a long running job, use of the special value *NONE is not recommended.

The library list of the job description is used to resolve the library names of called programs if EXPLODE(*YES) was specified. It is recommended you run the PRTMNUEXP command under the same library list that the menu options themselves would normally be run under if you want to explode the menu options.

Menu Explosion Report

The Menu Explosion Report is created with the following spool file attributes:

- Spooled file: FILE(QSYSPRT)
- User data: USRDTA('MnuOptRpt') **for** EXPLODE(*NO)
- User data: USRDTA('MnuExpRpt') **for** EXPLODE(*YES)

PRTORPHOBJ Command

Parameters:	Keyword	Description	Valid values
	LIB	Library to check	Library name, ***ALLUSR**
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Orphaned Objects Report** command produces a report of source and object discrepancies.

The Orphaned Objects Report may be requested in one of the following ways:

- Selecting option 4 from Docu-Mint menu DM#OBJ.
- Execute command PRTORPHOBJ from a command line.

Command Parameters

LIB

Specify the library whose objects should be checked for source discrepancies. This parameter can accept a single library name or the special value *ALLUSR to print the orphaned objects report for all user libraries.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB. Use of *NONE is not recommended, due to possible duration of job.

Orphaned Objects Report

The Orphaned Objects Report is created with the following spool file attributes: Spooled file FILE(QSYSPRT) and User data USRDTA('OrphObjRpt').

Possible Exception Messages Appearing on the Report

Here is a list of possible messages appearing on the report:

Message	Explanation
`***** Source not found`	This message is generated when the source associated with an object description was not found.
`***** Source/Object Time Discrepancy Object: create-date/time Source: change-date/time`	This message indicates the object's source has been changed since the object was created.
`***** Source and Object Names do no match`	This message is generated when the object's source member name does not match the object name. This could be used to identify renamed objects.
`***** Source member source-member found in source file source-file`	This message identifies possible alternate source members for the listed object.

PRTPGMEXP Command

Parameters:	Keyword	Description	Valid values
	PGM	Name of programs to include in report	Program name, GENERIC*, ***ALL**
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Program Explosion Report** command produces two reference reports listing CL and RPG programs. The first report explodes the source of CL and RPG programs. The second report is a directory to the first report giving an alphabetical list of programs and the page of the first report that the program may be found on. The amount of information shown is based on the following guidelines:

- If a CL program executes a non-IBM command, the command processing program for the command will be exploded.
- CL programs will be entirely exploded.

- RPG program explosions will list only File specifications and CALL statements. Programs called within RPG programs will be exploded according to their type.
- Other program types will list only the program and the fact that it is being called.

The Program Explosion Report may be requested in one of the following ways:

- Selecting option 4 from Docu-Mint menu DM#PGM.
- Execute command PRTPGMEXP from a command line.

Command Parameters

PGM

Specify the programs to include on the report. This parameter can accept a single program name, a generic* name or the special value *ALL. The library entry must be a valid library name.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB. Due to the potential of a long running job, use of the special value *NONE is not recommended.

The library list of the job description is used to resolve the library names of called programs. It is recommended you run the PRTPGMEXP command under the same library list that the programs themselves would normally be run under.

Program Explosion Report

The Program Explosion Reports are created with the following spool file attributes:

- Spooled file FILE(QSYSPRT)
- User data USRDTA('PgmExpDir')Directory
- User data: USRDTA('PgmExpRpt')Program explosions

PRTUNUSOBJ Command

Parameters:	Keyword	Description	Valid values
	OBJ	Object Name	Object name
	OBJTYPE	Object Type	***ALL**, selected object type (*PGM, *MODULE, etc.)
	JOBD	Batch job description	***USRPRF**, Valid job description

The PRTUNUSOBJ command is designed to print a list of objects that are not referenced in program calls, menus, or by any other object in a specified library *that has been analyzed*. The functionality of this command is similar to the PRTORPHOBJ, except that PRTORPHOBJ includes existence checks on all objects in its output (so generally produces too much information).

Command Parameters

Object Name/Library

Enter the name and library of the object that you want to check usage of, or *ALL to run the program over an entire library. If you type a specific object name and library, and that object is in fact used somewhere, the output would report that there were no unused objects satisfying the selected criteria.

Object Type

Enter the type of the object for which you are checking usage. Press F4 on this line to present a list of valid object types. This command also supports ILE objects.

Batch Job Description

Enter you batch job description, or *NONE to run the command interactively.

The PRTUNUSOBJ is further described in **Option 5 – Print Unused Objects Report** on page 109.

REFFLDXREF Command

Parameters:	Keyword	Description	Valid values
	FRMREFFLD	Name of menus to include in report	Menu name, GENERIC*, ***ALL**
	TOREFFLD	Explode menu options	***YES**, *NO
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Reference Field Cross Reference** command produces a report by reference field name showing the fields from other files on the system that are based on the reference field.

The Reference Field Cross Reference report may be requested in one of the following ways:

- Selecting option 3 from Docu-Mint menu DM#FLD (Menu DM#FLD can be reached by selecting option 2 from menu DM#MAIN).
- Execute command REFFLDXREF from a command line.

Command Parameters

FRMREFFLD

The from reference field parameter is used in conjunction with the To reference field (TOREFFLD) parameter to identify a range of reference fields to include on the report. Enter the name of the first reference field to appear on the report or the special value *ALL to produce a report listing all reference fields in Docu-Mint's cross reference files.

TOREFFLD

This parameter is used in conjunction with the From reference field (FRMREFFLD) parameter to identify a range of reference fields to include on the report. Enter the name of the last reference field to appear on the report or the special value *FRMREFFLD to limit the report to a single reference field. This parameter is ignored if the From reference field value is *ALL.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB.

Reference Field Cross Reference Report

The Reference Field Cross Reference report is created with the following spool file attributes:

- Spooled file: FILE(QSYSPRT)
- User data: USRDTA('RefFldXref')

RSHLIBCNT Command

Parameters:	Keyword	Description	Valid values
	LIB	Library to refresh counts for	Library name, GENERIC*, *ALL
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Refresh Library Counts** command is used to maintain Docu-Mint's library control file (DLIBCP) to quickly update the count of the number of objects in a library to be later displayed by the System Library Directory (SYSLIBDIR) command.

Refresh Library Counts may be initiated in one of the following ways:

- Selecting option 12 from Docu-Mint menu DM#LIB (Menu DM#LIB can be reached by selecting option 1 from menu DM#MAIN).
- Execute command RSHLIBCNT from a command line.

Command Parameters

LIB

Specify the libraries to refresh the counts for. This parameter can accept a single library name, a generic* name or the special value *ALL.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB.

RSHLIBCTL Command

The **Refresh Library Control** command is used to maintain Docu-Mint's library control file (DLIBCP) to insure all libraries on your system are in the control file to be later displayed by the System Library Directory (SYSLIBDIR).

Refresh Library Control may be initiated in one of the following ways:

- Selecting option 20 from the **Work with System Libraries** (WWL) panel.
- Selecting option 11 from Docu-Mint menu DM#LIB (Menu DM#LIB can be reached by selecting option 1 from menu DM#MAIN).
- Execute command RSHLIBCTL from a command line.

The Refresh Library Control command does not use any parameters. Simply execute the command from a command line.

SCN Command

Parameters:	Keyword	Description	Valid values
	STRING	Character string to search for	Character string
	IGNCASE	Treat lower case as upper case	***YES**, *NO
	WILD	Character that will not be tested for	Character included in STRING value
	HILITE	Hilite found values with this character	**'_'**, *BLANK
	SRCFILE	Source file range	Source file name, GENERIC*, ***ALL**
	SRCLIB	Source file library range	Source file library name, GENERIC*, ***ALL**
	SRCMBR	Source file member range	Source file member name, GENERIC*, ***ALL**
	SRCTYPE	Source file types to search	Source file type, GENERIC*, ***ALL**
	ORDER	Order of results in report created	***SOURCE**, *STRING
	RPTMBRS	Report all members (even where search string not found)	***YES**, *NO
	IGNCOMM	Ignore comment lines	***YES**, *NO
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Scan Source** command produces a report of character string usage within source members. Flexible command options provide a means of specifying both how to perform the search (such as whether or not to ignore case and the ability to specify a wild card character) as well as what source to search (generic support is provided for source file name, source library name, source member name and source type). A unique feature of the command allows the user to request that strings found within comments will not appear on the report.

Scan Source may be initiated in one of the following ways:

- Selecting option 1 from Docu-Mint menu DM#UTL (Menu DM#UTL can be reached by selecting option 4 from menu DM#MAIN).
- Execute command SCN from a command line.

Command Parameters

Certain parameters allow a *generic* type entry which can be in one of the following formats:

Format	Description
ABC*	Limit the selection to values beginning with the characters ABC. For example, ABC, ABCD or ABCTEST.
***ABC**	Limit the selection to values ending with the characters ABC. For example ABC, DABC or TESTABC.
B	Limit the selection to values that have the char B anywhere in the name. For example, B, BALL or ABCD.

STRING
Enter the character string to be searched for in the requested source. Up to 10 strings may be entered, each string containing up to 25 characters.

Find strings containing lowercase letters or embedded blanks *must* be enclosed in single quotes.

IGNCASE
Specify whether or not lowercase characters should be treated as uppercase characters. A value of *YES will treat lowercase characters as uppercase when performing the search. A value of *NO will enable a case sensitive search.

WILD
The value of this parameter is a character that you can specify in the find string(s) in positions that should not be tested when scanning for a match. When this character appears in the find string, any character in the source will be considered a match. A value of blank indicates that all characters in the find string take part in the scan. If the wild character is the first character in any find string, an error will occur.

HILITE
Find string characters will be highlighted within the source data by placing the specified value under each character. A blank character will cause the source data to be reported with no highlighting. The underline character (_) will cause the report to be single spaced with the find string characters to be overprinted with the underline.

SRCFILE
Use the source file parameter to limit the source files to search. This parameter works in conjunction with the SRCLIB, SRCMBR and SRCTYPE parameters in determining which source members are to be searched. This parameter can accept a single source file name, a *generic* name or the special value *ALL.

SRCLIB
Use the source file library parameter to limit the source file libraries to search. This parameter works in conjunction with the SRCFILE, SRCMBR and SRCTYPE parameters in determining which source members are to be searched. This parameter can accept a single source file library name, a *generic* name or the special value *ALL.

SRCMBR
Use this parameter to limit the source members to search. This parameter works in conjunction with the SRCFILE, SRCLIB and SRCTYPE parameters in

determining which source members are to be searched. This parameter can accept a single source member name, a *generic* name or the special value *ALL.

SRCTYPE

Use this parm to limit the source member types to search. This parameter works in conjunction with the SRCFILE, SRCLIB and SRCMBR parameters in determining which source members are to be searched. This parameter can accept a single source member type, a *generic* type, the special value *ALL or the special value *BLANK to process source members with a blank source type.

ORDER

Specify what order the report is to appear in. Enter one of the following for the ORDER parameter:

- ***SOURCE** to print the report in source member order causing the source data to be printed only one time in the entire report regardless of the number of unique find strings that were found in the source data.
- ***STRING** to print a separate report section for each find string requested. Each section will report the status of the search for the current find string only.

RPTMBRS

Specify whether or not to report any source members searched but not found to contain any find string occurrences. Enter one of the following for the RPTMBRS parameter:

- ***YES.** If no find strings are found in a particular source member, include the source member on the report with the message:

  ```
  /* Find String(s) Not Found in Member */
  ```

- ***NO**. Report only those source members whose contents contain one or more of the find strings.

IGNCOMM

Specify whether or not to ignore any find string occurrences appearing in comment lines. Comment lines are determined according to the syntax of the source as determined by the source type. Enter a value of *NO or *YES for this parameter.

JOBD

Specify the name of the job description to run the report under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or

*CURLIB. Due to the potential of a long running job, use of the special value *NONE is not recommended.

Scan Source Report

The Scan Source report is created with the following spool file attributes: Spooled file FILE(QSYSPRT) and User data USRDTA('ScnSource').

STRLIBANZ Command

Parameters:	Keyword	Description	Valid values
	LIBGRP	1-10 library names or group names	Library name(s), Group name(s), *ALL
	INCLUDE Load	Include libraries marked for loading	***YES**, *NO
	INCLUDE Remove	Include libraries marked for removal	***YES**, *NO
	INCLUDE No Action	Include libraries marked for no action	*YES, ***NO**
	RGZPFM (on F10)	Reorganize physical file member	*YES, ***NO**
	FLDXRF (on F10)	Include extended field X-Ref data	***YES**, *NO
	JOBD	Batch job description	***USRPRF**, Valid job description

The **Start Library Analysis** command is used to initiate an analysis of objects and source members within a library. This command is used in conjunction with the Mark Library (MRKLIB) command which is used to flag one or more libraries to be analyzed. Once all libraries to be analyzed have been marked, the Start Library Analysis command can now be executed to begin an analysis of the requested libraries. Only objects that have been created or changed since the last analysis will be considered for analysis. This means your first analysis of a library may take some time but subsequent runs will finish much faster. After the library analysis completes, cross reference data is available for Docu-Mint's displays and reports.

Please note that this command *does not produce a report*. It's function is to maintain the cross reference files used by the various Docu-Mint on-line and reporting modules. The Object Analysis Errors Report (PRTANZERR) or the System Object Directory (SYSOBJDIR) may be used after the library analysis

to determine if Docu-Mint had any difficulties in analyzing the requested libraries.

After running the Start Library Analysis command you need to check the analysis errors report, to verify that all objects in the lib were successfully analyzed. If not, check the errors to identify the cause of the problem, and if possible, correct it (the most common error is source not found, which you can generally fix with alternate source file entries). When you run the library analysis again for this library, any objects that were properly analyzed will be skipped unless that object was changed or recompiled.

Start Library Analysis may be initiated in one of the following ways:

- Selection option 6 from the **Work with System Libraries** (WWL) panel.
- Selecting option 2 from Docu-Mint menu DM#LIB. (Menu DM#LIB can be reached by selecting option 1 from menu DM#MAIN).
- Execute command STRLIBANZ from a command line.

Command Parameters

LIBGRP

Specify up to 10 library names, library group names (see the Change Library Attributes (CHGLIBATR) command for an explanation of library group names) or the special single value *ALL. Each entry is qualified by a Type attribute of *LIB or *GRP to identify the entry as a library name or a group name.

INCLUDE

Use this parameter to further control processing of the libraries specified by the LIBGRP parameter based on each library's Action at next analysis (ACTION) attribute. Each of the three elements of the INCLUDE parameter corresponds to the three possible states a library's ACTION attribute can assume: *LOAD, *REMOVE or *NONE.

- The first element (Load) controls whether or not to analyze the libraries specified in the LIBGRP parameter that have an ACTION attribute of *LOAD. This element accepts a value of *NO or *YES with a suggested default value of *YES.
- The second element (Remove) controls whether or not to remove the cross reference data from the libraries specified in the LIBGRP parameter that have an ACTION attribute of *REMOVE. This

element accepts a value of *NO or *YES with a suggested default value of *YES.

- The third element (No action) controls how libraries specified by the LIBGRP parameter that have an ACTION attribute of *NONE are to be processed. Enter a (default) value of *NO to ignore processing of these libraries or a value of *LOAD or *REMOVE to Load or Remove cross reference data from these libraries.

RGZPFM (press F10)

The RGZPFM parm allows you to reorganize the internal Docu-Mint files when running the STRLIBANZ command. This option is useful when you have marked one or more libraries with *REMOVE, to remove their records from Docu-Mint. Specify *YES to get the space savings from the purging of the records.

FLDXRF (press F10)

The FLDXREF parameter will load the program/field cross-reference file (DPGMXP) that is referenced by the Extended Field Analysis Module. If this parameter is left as *YES as significant number of records will be written to this file. These records contain field usage and "drill-down" information for each field found in a program. This file can as a result get very large and occupy a significant amount of storage space. If you do not plan on using the Extended Field Analysis Module this parameter can be changed to *NO for the library analysis.

JOBD

Specify the name of the job description to submit the job under. This parameter can accept a job description name or a special value of *NONE or *USRPRF. The library entry can accept a library name or a special value of *LIBL or *CURLIB. Due to the potential of a long running job, use of the value *NONE is not advised.

WRKANZCMD Command

Work with Analyzed Commands allows you to maintain the list of commands that are included in CL program analysis. The panel presented displays a list of records in the file DCMDCP, which is used by the ANZCLP command as the

basis for analyzing your CL programs. Below is an illustration of the panel presented when you run WRKANZCMD:

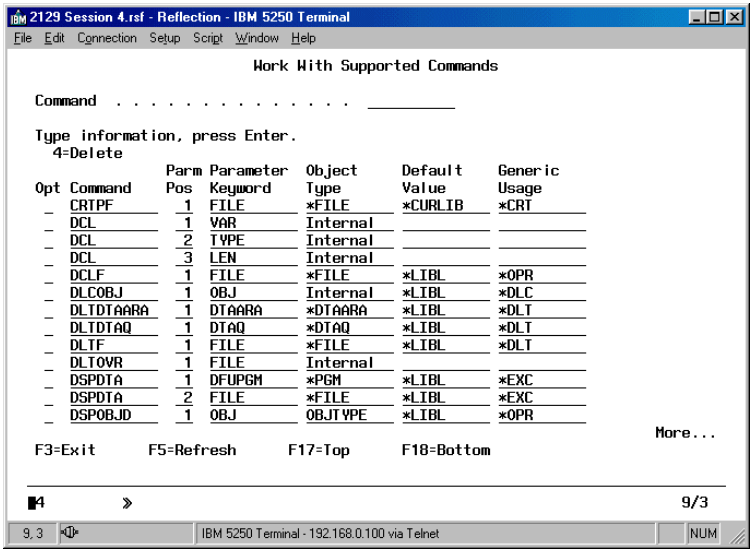
2129 Session 4.rsf - Reflection - IBM 5250 Terminal
File Edit Connection Setup Script Window Help
Work With Supported Commands
Command . . . . . _____
Type information, press Enter.
4=Delete
Opt Command Parm Pos Parameter Keyword Object Type Default Value Generic Usage
_ CRTPF 1 FILE *FILE *CURLIB *CRT
_ DCL 1 VAR Internal
_ DCL 2 TYPE Internal
_ DCL 3 LEN Internal
_ DCLF 1 FILE *FILE *LIBL *OPR
_ DLCOBJ 1 OBJ Internal *LIBL *DLC
_ DLTDTAARA 1 DTAARA *DTAARA *LIBL *DLT
_ DLTDTAQ 1 DTAQ *DTAQ *LIBL *DLT
_ DLTF 1 FILE *FILE *LIBL *DLT
_ DLTOVR 1 FILE Internal
_ DSPDTA 1 DFUPGM *PGM *LIBL *EXC
_ DSPDTA 2 FILE *FILE *LIBL *EXC
_ DSPOBJD 1 OBJ OBJTYPE *LIBL *OPR
More...
F3=Exit F5=Refresh F17=Top F18=Bottom
4
9/3
9, 3
IBM 5250 Terminal - 192.168.0.100 via Telnet
NUM

Figure 13-2.

To add new commands to the list, press F18=Bottom. To change existing entries, make the modifications directly to the list.

WRKLIBL Command

The **Work with Library Lists** command provides you with a list interface to named library lists. Each named library list consists of a name, description, up to 15 system libraries, current library and up to 25 user libraries. From this display you can create, edit, copy, delete, display or rename named library lists.

Named library lists are used by Docu-Mint in the Work with Used Objects (WRKUSEOBJ or WUO) command. User written utilities may also make use of these named library lists by accessing the data from file DLIBLP (Library List Master File) in library DM#LIB.

Work with Library Lists may be initiated in one of the following ways:

- Pressing F20 from the Work with System Libraries (WWL) panel.
- Selecting option 3 from Docu-Mint menu DM#CFG. (Menu DM#CFG can be reached by selecting option 4 from menu DM#MAIN).
- Type WRKLIBL on any command line.

For a complete description of the panels presented when you run the WRKLIBL command, and the functions available from those panels, please refer to the appropriate section in Chapter 9, **Menu DM#CFG: Docu-Mint Configuration**.

WRKPGMFLD Command

The **Work with Program Field Usage** command provides you with a list interface to field usage within RPG programs. From this list you can perform operations (on the programs) such as change, copy, delete, display and rename. WRKPGMFLD performs these operations by calling commands with substitution values passed from the list of items you are working with.

Work with Program Field Usage may be initiated in one of the following ways:

- Selecting option 4 from Docu-Mint menu DM#FLD. (Menu DM#FLD can be reached by selecting option 3 from menu DM#MAIN).
- Type WRKPGMFLD on any command line.

For a description of the panels presented by the WRKPGMFLD command, and the options available to you from them, please refer to the section on this command in Chapter 7, **Menu DM#FLD: Field Cross Reference**.

WRKUSEOBJ or WUO Command

Parameters:	Keyword	Description	Valid values
	OBJ	Parent object name	Object name, GENERIC*, *ALL
	LIB	Parent object library name	Library name, *ALL
	OBJTYPE	Parent object type	*ALL, *CMD, *MENU, *PGM, *PROC, *QRY, *USRPRF
	DSPGENUSG	Display generic usage definition	*ALC, *ALL, *DCLF, *DLC, *DLT, *EXC, *MGT, *OPR, *OVR, *REF
	DSPOBJTYPE	Limit output of child objects to 1 type	Valid object type, *PROC, *ALL
	DSPTYPALL	Display object type *ALL	*NO, *YES
	DSPTYPVAR	Include refs to objects determined by program variable at run time	*NO, *YES
	LIBL	Lib list to use when resolving obj name	Named library list, *JOBD
	TRTBLKLIB	How to treat blank lib references	Lib name, *CURLIB, *FLIB, *LIBL, *USRLIBL
	TRTVARLIB	How to treat variable lib references	Lib name, *CURLIB, *FLIB, *LIBL, *USRLIBL
	DSPLIBNAM	Display actual lib name or resolved	*ACTUAL, *RESOLVE
	MAXLVL	Maximum explosion levels to indent	0-99, *NOMAX
	INDPTN	Character preceding indention	Valid character
	COLUMNS	Columns to indent on explosion	1, 2 or 3
	OUTPUT	Where the command output is sent	*, *PRINT

The **Work with Used Objects** command provides you with a list interface to the objects used by commands, menus, procedures, programs, queries and user profiles on your system.

Work with Used Objects (WUO) allows you to work with lists representing the flow of work on your system. From these lists you can perform operations such as copy, delete, edit and rename. WUO performs these operations by calling commands with substitution values passed from the list of items you are working with (for example, library name, object name, object type).

Work with Used Objects may be initiated in one of the following ways:

- Selecting option 9 from the **Work with Analyzed Objects** (WWO) panel.
- Selecting option 2 from Docu-Mint menu DM#OBJ. (Menu DM#OBJ can be reached by selecting option 2 from menu DM#MAIN).
- Type WRKUSEOBJ (or WUO) on any command line.
- Type WUO on a subfile option line.

Command Parameters

Note that all parameters except Maximum explosion level (MAXLVL) and Output (OUTPUT) accept the special value *PRV which automatically uses the value of the parameter from your last use of the Work with Used Objects command.

OBJ
Specifies the parent object name. You can use this parameter along with the Library and Parent object type parameters to subset the list of objects shown at the primary (parent) level of the list. This parameter can accept a single object name, a generic* name or the special value *ALL.

LIB
Specifies the parent object library name. This parameter is used in conjunction with the Parent object and Parent object type parameters. This parameter can accept a single library name or the special value *ALL.

OBJTYPE
Specifies the parent object type. This parameter is used in conjunction with the Parent object and Library parameters. Valid entries for this parameter are: *ALL, *CMD, *MENU, *PGM, *PROC, *QRY or *USRPRF.

DSPGENUSG
In addition to storing specific information about how an object is used (such as CALL, SBMJOB, OVRDBF, INP, OUT), Docu-Mint also maintains a generic usage definition. For example, since both the CALL and SBMJOB commands initiate a process on the IBM i, their functions are tied together by a generic usage definition of *EXC (Execute). This allows you to refer to different, yet related, actions by a single entry. The following values may be entered for this parameter with *ALL and *EXC being the most useful entries:

Value	Description
*ALC	Object allocation
*ALL	All generic usage definitions
*DCLF	File declarations
*DLC	Object deallocation
*DLT	Object deletion
*EXC	Execute
*MGT	Object management operations
*OPR	Object operational operations
*OVR	Object overrides
*REF	File references

DSPOBJTYPE
Allows you to limit the child objects in the list to objects of one specific type. This parameter will accept an OS/400 object type (such as *FILE), the special pseudo type *PROC (for procedures) or the special value *ALL.

DSPTYPALL

The Display Object Type *ALL parm controls whether or not program references to objects where the object type is specified as *ALL (such as DSPOBJD OBJ(L/X) OBJTYPE(*ALL)...) should be included in the list. This parameter accepts a value of *NO or *YES with the suggested default being *NO.

DSPTYPVAR

The Display Object Type *VAR parm controls whether or not program references to objects whose object type is determined at run time by a program variable should be included in the list.

For example, when analyzing the statement, `DSPOBJD OBJ(MYLIB/ANYOBJ) OBJTYPE(&objtype)` Docu-Mint will create a cross reference usage record for object ANYOBJ in library MYLIB; however, since the object type cannot be determined, the pseudo-value *VAR will be substituted for the object type. This parameter accepts a value of *NO or *YES with the suggested default being *YES.

LIBL

Use this parameter to specify the name of a library list to use when Docu-Mint resolves an object name. Changing the simulated library list is useful for performing "What if" type scenarios on object usage under different job environments. This parameter accepts a named library list or the special value *JOB to use the library list of the job executing the WUO command. For more information on named library lists, see Using the Work with Library Lists (WRKLIBL) Command.

TRTBLKLIB

Sometimes, during the analysis of an object, Docu-Mint is unable to determine the name of a referenced object's library (or supply an appropriate default value). In these instances, the library name contained in the cross reference files is left blank. In order to resolve these objects, Docu-Mint needs to be instructed on how to handle a missing library name. Use this parameter to specify what library name should be substituted in these situations. You can specify a single library name, or a special value of *CURLIB (Current library), *FLIB (System/36 files library), *LIBL (Library list), or *USRLIBL (User library list) with the suggested default being *LIBL.

TRTVARLIB

The 'Treat Variable Library Name As…' parameter can be used to specify what library name value Docu-Mint should use when resolving a reference to an object whose library is defined as a program variable (such as OVRDBF... TOFILE(&varlib/ANYFILE)...). You can specify a single library name, or a special value of *CURLIB (Current library), *FLIB (System/36 files library),

*LIBL (Library list), or *USRLIBL (User library list) with the suggested default being *LIBL.

DSPLIBNAM
Specify whether the library name to be displayed is the actual library name from the object cross reference file or the resolved library name as determined by Docu-Mint. The resolved library name takes into account the Library list (LIBL), Treat blank library name as (TRTBLKLIB), and Treat variable library name as (TRTVARLIB) parameters when resolving an object's library. This parameter accepts a value of *ACTUAL or *RESOLVE with the suggested default being *RESOLVE.

MAXLVL
Controls the maximum number of execution levels to indent. This parameter accepts a numeric value of 0 to 99 or the special value *NOMAX.

INDPTN
Use this parameter to specify the characters preceding an indented entry. These indentation characters are useful in helping you identify what execution level an object is at in relation to it's parent. This parameter is used in conjunction with the Columns to indent parameter.

COLUMNS
The Columns to Indent parm is used to specify how many columns each new execution level should be indented. This parameter is used in conjunction with the Indent pattern parameter. This parameter accepts a value of 1, 2 or 3.

OUTPUT
Specifies where the output from the command is sent. Possible values are * (Display) or *PRINT (Report).

For a complete description of the panels presented by the Work with Used Objects command and the options available from these, please refer to **Option 2 – Work with Used Objects** on page 94.

WRKWHRUSE or WWU Command

Parameters:	Keyword	Description	Valid values
	OBJ	Child object name	Object name, GENERIC*, *ALL
	OBJTYPE	Child object type	*ALL, [*TYPE] - prompt for list of valid types
	LIBL	Lib list to use when resolving obj name	Named library list, *JOBD, *ALL
	INDPTN	Character preceding indention	Valid character (usually |)
	COLUMNS	Columns to indent	1, 2, 3
	OUTPUT	Where to send command output	* (screen), *PRINT

The **Work with Where Used (WWU)** command provides you with a list interface to locate where objects are used on your system. From this list you can perform operations such as copy, delete, edit and rename. WWU performs these operations by calling commands with substitution values passed from the list of items you are working with (for example, library name, object name, object type).

An important feature of the Work with Where Used command is the ability to perform a where used on a physical file and automatically include references to all logical files built over the physical file. To activate this feature it is necessary for the physical file's library to be in the simulated library list in order for Docu-Mint to locate that file's database relations. This can be accomplished by making the proper entry in the command's LIBL() parameter or by editing the simulated library list once you are at the list display.

The build program for the WWU command uses a system file called QADBFDEP which stores file dependencies. In order to see file dependencies, a user needs to have authority to this file. It is possible that at newer releases of the OS/400 the default authority level on this file has changed, in which case users have to be specifically granted authority to this file, if they don't get results including file dependencies. If authority cannot be granted, try running the WWU with a generic file name, for example CUSTMS* for CUSTMST, CUSTMSL1, CUSTMSL2, etc.

Work with Where Used may be initiated in one of the following ways:

- Selecting option 8 from the **Work with Analyzed Objects** (WWO) panel.
- Selecting option 3 from Docu-Mint menu DM#OBJ. (Menu DM#OBJ can be reached by selecting option 2 from menu DM#MAIN).
- Type WRKWHRUSE (or WWU) on any command line.
- Type WWU on a subfile option line.

Command Parameters

Note that all parameters except Output (OUTPUT) accept the special value *PRV which automatically uses the value of the parameter from your last use of the Work with Where Used command.

OBJ

The Child Object parm specifies the name of the object you want to find where it is being used. Use this parameter along with the Child object type parameter to subset the list of objects shown at the primary (child) level of the list. This parameter can accept a single object name, a generic* name or the special value *ALL.

Note: Special value *ALL will display references to the value *ALL (for example, DLTOVR FILE(*ALL)), not references to all objects on your system as you might expect. The main reason for this anomaly is that Docu-Mint stores references to variable values as well as real object names. Displaying *all* object references then would create a child level record for each unique program variable name used in all of your programs and make the where used list unmanageable. Also, the structure of Docu-Mint's object cross reference file would make retrieving this type of list very time consuming. Ways of overcoming this limitation are being considered for a future version of Docu-Mint.

OBJTYPE

The Child Object Type parm specifies the type of object requested by the Child object parameter. Enter a valid OS/400 object type or the special Docu-Mint pseudo object type *PROC.

Something that has been a source of confusion to many Docu-Mint users over the years has been the meaning of the *ALL value for the OBJTYPE parm on the WRKWHRUSE command.

The instinctive expectation for many people is that this means that if you select CUST as your object, and *ALL as the type, the results will reflect usage records for all CUST objects, regardless of whether they are programs, files, data areas, etc. In reality, the OBJTYPE *ALL parm will retrieve references to the value *ALL, for example, if you had a command to delete an object, with an object type of *ALL.

Because the existing functionality was actually something that people occasionally do use, we didn't want to remove that, so we had added a new *ANY option to this command. Using the *ANY value for the object type parm will retrieve all references to an object of a given name, regardless of the object type.

LIBL

Use this parameter to specify the name of a library list to use when Docu-Mint resolves child objects. This allows the where used list to retrieve and display the child's object attribute, text, and, for physical files, the file's database relations for automatic inclusion of the file's based on logical files. This parameter accepts a named library list, or the special value *JOB to use the library list of the job executing the WRKWHRUSE command, or *ALL. *ALL will include all documented library references without the need to structure a library list or change your current job's library list. Note that if you press F18 from the WWU list, you can change the library list used by the command and the information will reload. This panel also supports the value *ALL.

For more information on named library lists, see Using the Work with Library Lists (WRKLIBL) Command.

INDPTN

The Indent Pattern is used to specify the characters preceding an indented entry. This parameter is used in conjunction with the Columns to indent parameter.

COLUMNS

Use this parameter to specify how many columns to indent each child's parent. This parameter is used in conjunction with the Indent pattern parameter. This parameter accepts a value of 1, 2 or 3.

OUTPUT

Specifies where the output from the command is sent. Possible values are *(Display) or *PRINT (Report).

For a complete description of the panels presented by the Work Where Used command, and the options available from these, please refer to **Option 3 – Work with Where Used** on page 101.

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